

The Far Eastern Review

ENGINEERING ✦ FINANCE ✦ COMMERCE

A Monthly Review of Far Eastern Trade, Finance and Engineering, Dedicated to the Industrial Development and Advancement of Trade in Far Eastern Countries.

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FAR EASTERN REVIEW

Vol. XVI. No. 10 SHANGHAI, PEKING, TOKYO, MANILA, NEW YORK

OCTOBER, 1920

The Asiatic Race Question

AN AMERICAN SOLUTION

Proposed by George Bronson Rea

NEW STEEL ROOFS IN
PICTURESQUE OLD PEKING

BUILDING SCHOOLS IN THE
PHILIPPINES

CHINA AT THE CROSS-ROADS—
WHICH WAY?

AN AMERICAN
HYDRO-ELECTRIC PLANT IN
AFGHANISTAN

GAS-PLANT OPPORTUNITIES IN
JAPAN



PREMIER KEI HARA OF JAPAN

Dr. SUN YAT-SEN'S PLANS
FOR CHINESE RAILWAY
DEVELOPMENT

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Suitable for Shipyards, Fabricating Shops, Car Shops

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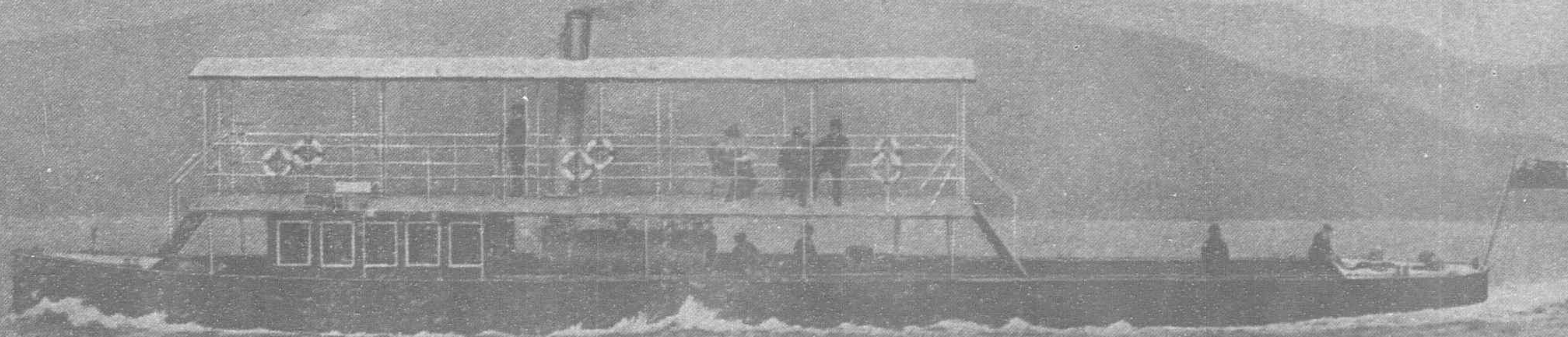
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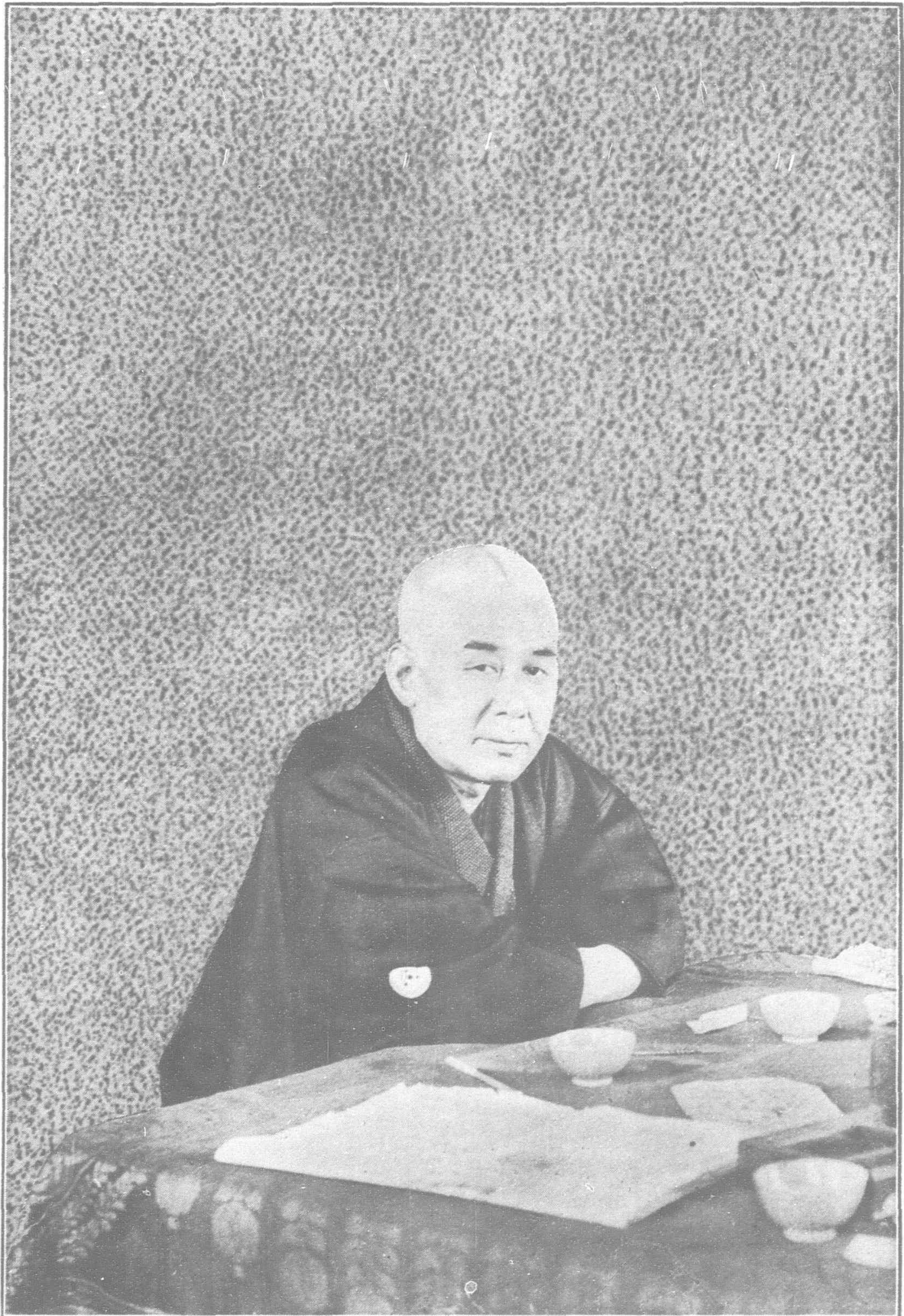
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HONORABLE KEI HARA

First Commoner Premier of Japan, Leader of Liberal
Japanese Opinion and a Strong Advocate of a Fair,
Friendly and Safe Solution of the Racial Equality Problem.

The Far Eastern Review

ENGINEERING

FINANCE

COMMERCE

VOL. XVI

SHANGHAI, OCTOBER, 1920

No. 10

JAPAN'S RIGHT TO EXIST

Inevitable Aftermath of the Fiasco of Paris Brings to a Direct Issue
Fundamental Far Eastern Problems.—An American Solution

By George Bronson Rea, Publisher of "The FAR EASTERN REVIEW"

FOR the present, the Japanese must remain at home. "Equality of nations and just treatment of their nationals" was rejected at the Peace Conference, excluded from the preamble to the Covenant of the League of Nations, and deleted from the articles safeguarding minorities and freedom of belief.

Eleven delegates on the league commission voted for the adoption of the Japanese proposal; seven registered against it. President Wilson, officiating as the chairman of the commission, ruled that the equality clause presented by Baron Makino required unanimity. The Monroe Doctrine clause in the covenant was rushed through the committee and adopted without the formality of a vote, while it was being opposed by the delegate of Belgium and other representatives of small nations were awaiting to register their disapproval. President Wilson simply applied the steam-roller to the committee and declared the American doctrine carried. The Japanese delegates recognized the vital necessity of the Monroe Doctrine for the protection of American interests and refrained from registering protest or uttering any adverse comment against the rather dictatorial tactics of the President, hoping that when the time arrived to consider their own vital proposal, similar consideration would be extended to them. Although deeply disappointed at the President's failure to recognize the majority rule in the equality proposal, Baron Makino simply announced that the question would be raised again when the League of Nations is organized and in operation. Until a final decision is made by competent international authority, the world must give heed to actual facts.

The Japanese may not enter the United States or the British dominions in the Pacific or Africa on equal terms with other peoples. Japan has to find room for nearly a million new children a year. In twenty-five years, at the present rate of increase, there will be 30,000,000 more Japanese. Japan cannot by any stretch of the imagination absorb all this annual surplus in new industries or in cultivating the sides of Mount Fuji and other waste places in order to gratify the "blue-eyed" economists who maintain that there is plenty of room in Japan for many more millions. It may be difficult from several points of view to place in practice the foreign plans or try out the theories designed to further compress these Japanese millions in their sardine-packed empire. Japan must find an outlet. She faces an actuality. Before the war, her people were headed eastward, across the Pacific. They are now headed westward, into Man-

churia, Mongolia and Siberia. If denied this outlet, they may again seek to cross the Pacific; where, if the doors of America and Canada remain locked and barred, they must turn southward to the more hospitable shores of Mexico, Central and South America. The issue, then, is sufficiently clear. Either America, Australia, Africa or Asia must open their doors to the Asiatic. America and Australia and British South and East Africa have announced their decision in unmistakable terms and tones. Therefore, to preserve the race, the Japanese must seek their outlet in Asia or absorb their surplus in the creation and expansion of industries, which, in turn, will force their products out over the Seven Seas into the markets of the world, in competition with those of the West. The victory in the struggle for survival will go to the nation best equipped to stand the economic strain. It might go to Japan.

With Japan smarting under the arbitrary Peace Conference ruling and subjected to world-wide criticism and suspicion for her policy in China and Eastern Siberia, Governor Stevens of California reopens the racial question by calling upon the Federal government to take immediate steps to stop Japanese colonization in that state. Stringent legislation, providing for the exclusion of all Japanese from entrance into the United States, is recommended. He places the people of California on record as being determined to repress a developing Japanese community within their midst and firmly resolved to exhaust every power in their keeping to maintain the state for their own people. The governor admits that the problem is one beyond the power of solution by the state or local legislation

and urges the secretary of state of the United States to open the question at once with Japan. He expresses faith in the intelligence of the Japanese to understand the attitude of California and to recognize that it is prompted solely by the inherent desire of every race and type of people to preserve itself.

A Long Step Forward

The governor's letter undoubtedly constitutes a long step forward towards arriving at a satisfactory solution of this vexing problem; which, in default of a fundamental settlement in a new treaty, will ultimately have to go before the League of Nations or a more practicable concert of the powers. Japan has recognized in the "gentlemen's agreement" the basic justice of California's position, except where it discriminates against

A QUADRILATERAL FAR EASTERN ALLIANCE?

Colonel Edward M. House, American Peace Delegate and Former Confidential Adviser of President Wilson, finds many influential British Statesmen strongly in favor of an Anglo-American-Sino-Japanese Treaty to supercede the Anglo-Japanese Alliance. I found the same sentiment while discussing Far Eastern problems with members of the British delegation in Paris.

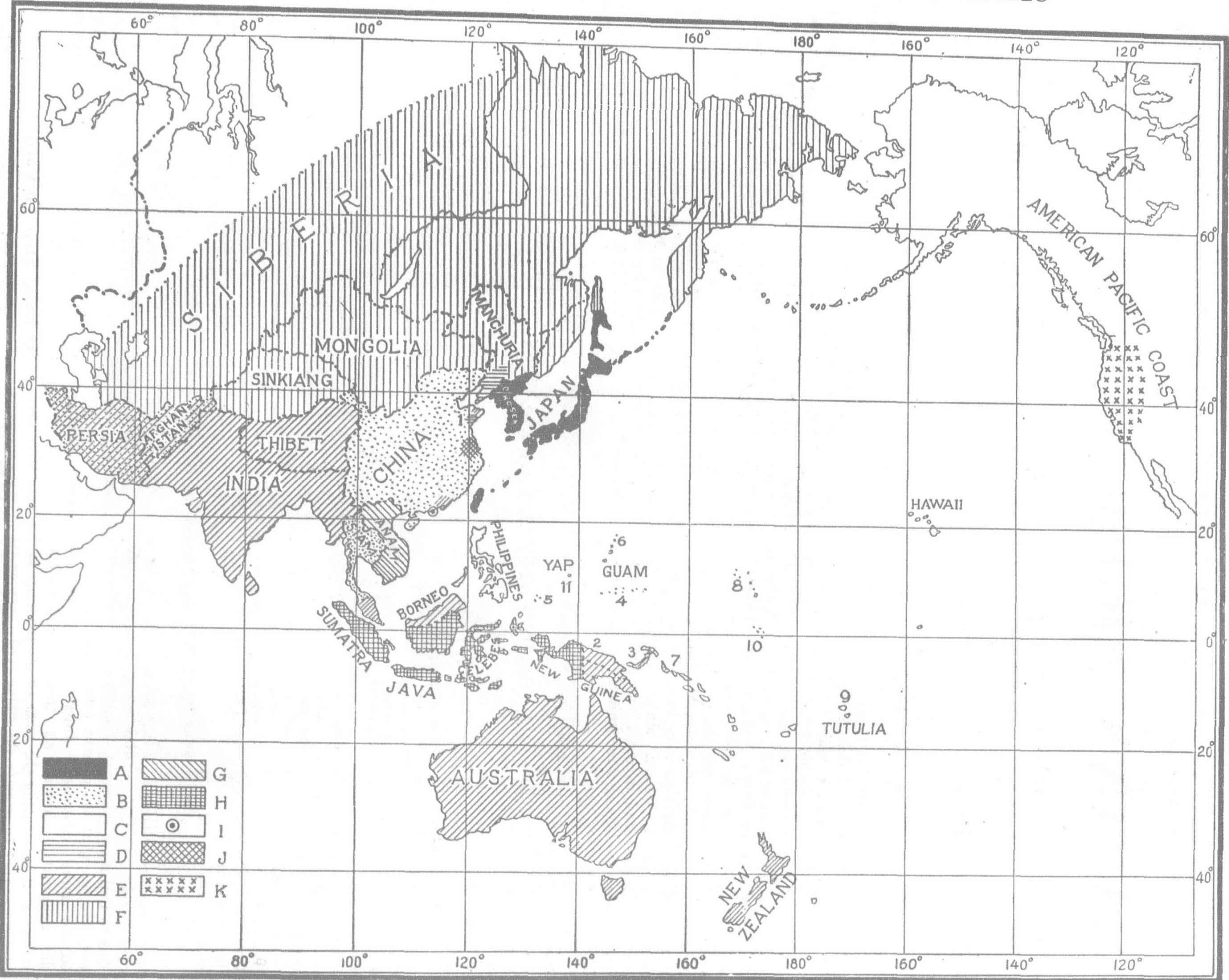
If the Anglo-Japanese Alliance is abandoned, some Practical Far Eastern Peace Preservative must take its place.

China should be Aided to Reorganize Herself so that she may play her Rightful Role in the Struggle to Preserve Asia's Sovereignty over Asia's Soil.

This Article is an Effort to Point the Way to an Anglo-American-Asiatic Solution of the Problem, with Advantage and Fairness to All and Malice or Injustice to None.

G. B. R.

Actual Sovereignty of Asia and the Pacific



A Actual Asiatic sovereignty;
B Asiatic sovereignty impaired;
C American possessions in Pacific;
D Japanese occupation;
E British control or actual annexation;
F Asiatic territory absorbed by Russia;
G French occupation;
H Dutch East Indian possessions;
I Portuguese possessions;
J Actual international jurisdiction;
K American Pacific Coast territory saved from the grasping greed of Russia by the pronouncement of Monroe's Doctrine, the opening paragraph of which warned Russia and Europe that we would protect our American Pacific soil precisely as Japan is to-day protecting Asiatic Pacific coast soil.

This map is reproduced from AMERICA'S AIMS AND ASIA'S ASPIRATIONS by permission of The Century Co., of New York City. It was drawn by the author, Patrick Gallagher, to illustrate one of the chapters dealing with Asiatic sovereignty and the race problem. AMERICA'S AIMS AND ASIA'S ASPIRATIONS is the Far Eastern history of the Conference of Paris and the Century Co.'s leading serious offering of the present year.

the treaty rights of her subjects entitled to residence and the ownership of land. She is, however, determined to insist upon equality of treatment of all nationals, if not of nations or races.

"California reposes faith in the intelligence of Japan to understand its position." So says the governor of California. This admission that the Japanese are possessed of reasoning powers provides a meeting ground for discussion. Japan is equally justified in expecting that California's intelligence is on a par with her own and that California will reciprocate by recognizing Japan's right to racial preservation. With the acceptance of this principle we have a starting point for presenting both sides of the case. As Japan's right to racial preservation—or China's, for that matter—may not be assured by emigration to America, Canada, Australia, New Zealand or South or East Africa, then the road must be opened to them in Asia. If the West refuses admission to the Japanese and then attempts to dictate what they shall or shall not do in Asia, when their back is against the wall fighting for existence, the way is being paved for events that will again shake the very foundations of our civilization.

When any one Power or group of Powers circumscribe the activities of a virile, rapidly expanding people, the penalty must be paid in one way or another. The laws of nations, of treaties, conventions and alliances, must give way before the inexorable law of nature. If we block their expansion, refuse them colonies in suitable climes, prohibit their emigration, and force them to absorb their surplus, we create industrial and commercial conditions, and let loose upon the world the same forces which precipitated the last great catastrophe. Are we to repeat the errors of the old diplomacy? Will we deny to the people of Japan the

right to emigrate and compel them to remain at home and engage in industry; and, when their products undersell ours in the markets of the world, and the struggle for existence goes against us, will we turn upon them and combine for their destruction? If we are to profit by the lessons of the past, it is much better that we recognize in time the fundamental problem of Japan and help her to find a peaceful solution, instead of blocking her at every step.

THE FAR EASTERN REVIEW has no illusions about this problem. For many years, we have led the discussions on this subject and pointed a solution. Before the Great War, when Japan, despairing of obtaining recognition of equality, suddenly terminated diplomatic negotiations with the United States over the drafting of a new treaty, the pressure of emigration was exerted towards finding its outlet in America. Since then, conditions have changed. Our views have changed with them. We have dug down to the roots of this problem and hold that the racial menace in the Pacific is the direct outcome of Russia's inordinate greed and rapacity in Asia. For over a century, the Muscovite has ridden roughshod over the defenseless peoples of Asia and annexed their territories. He has stolen from the Yellow Men the lands that God and Nature set aside as their heritage,

and then encircled them with a wall of bristling bayonets. The Yellow Peril bogie did not originate with the Kaiser. He absorbed this fear from his Romanoff cousin. The statesmen on the banks of the Neva trembled at the thought of the day when Russia would meet the strangling expansion of 400,000,000 or more Chinese. They looked far into the future and formulated a set, determined policy as the basis of racial preservation. At all costs, at all hazards, the Yellow Man must be confined to China Proper and the pressure of his increasing population diverted into other channels. This is Russia's Monroe Doctrine. In applying it, Mongolia was amputated from China in 1912 and created into an independent buffer state under Russian protection to prevent its development and colonization by the Chinese. Stringent exclusion and discriminatory laws kept the Yellow Men out of Siberia, and wherever they stepped through the cordon of Cossack bayonets in large numbers, they were turned back or ruthlessly massacred. Up to the commencement of the World War, the armies of the Czar stood ever ready to fight for the preservation of a White Siberia. This selfish policy, com-

pressed the Mongol flood within its own confines, and, as the pressure steadily increased, it followed the natural law and sought its outlet at the weakest point. Struggling under the heart-breaking burden of the last conflict with Russia, Japan could not afford to challenge her position. It required every yen that could be wrung from an overtaxed people, to keep up with the terrific pace set by Russia in her preparations to resume the conflict. China, who should have defended her own territories and served as a buffer for Japan, was Russia's dupe, her secret Ally, in order to be revenged upon Japan for her humiliation in 1895. De-

spoiled of the legitimate fruits of her victory by the jealousies of the Powers (headed by Russia) and unable to find an outlet in Asia, Japan was prodded over the Pacific, and the issue shouldered upon the United States.

If it had not been for the Great War, America and Japan before now would have had to find a solution. It was, and still is, part of Russian, Middle European, and Chinese diplomacy and propaganda to pit America against Japan. China's weakness, her inability to defend herself against Russia, created the original issue. Her duplicity in Manchuria brought about the war between Russia and Japan, and analysis of the present situation will indicate that the bland, agile, corkscrew diplomacy of Peking is paving the way for a war of the races between Japan and the United States. Americans are prone to overlook the all-important truth that China is also bitterly opposed to our exclusion policy, but lacks the strength and courage to voice or back up a protest. Intelligent Chinese understand that Japan is fighting the battle for Asia, and that unless an outlet is found over the Pacific the solution of the problem must be at the expense of their very good and dear friend, Russia. If China can keep Japan out of Manchuria and Eastern Siberia, the issue will ultimately have to be solved in the Pacific.



HIS EXCELLENCY BARON MAKINO

Who Directed at Paris Japan's Effort to Secure for All Asia Racial and National Equality. His Able Diplomacy Secured a Majority for His Amendment, Including the Recorded Vote of the Chinese Representative, Dr. Wellington Koo. The Asiatic Plea was Rejected by What M. Gauvain, the Famous French Expert, Described as "A Miserable Technicality Invoked by the Moses of Modern Mankind."



AMBASSADOR H. IJUIN

A Famous Japanese Friend of China, Former Minister at Peking and One of the Japanese Peace Delegates at Paris Who Sought an Amicable Solution of Sino-Japanese Differences. China Has a Host of Good Japanese Friends Like Mr. Ijuin; but, Instead of Helping Them to Help China, Too Many Chinese Spend Most of Their Time Antagonizing the Japanese All Along the Line.

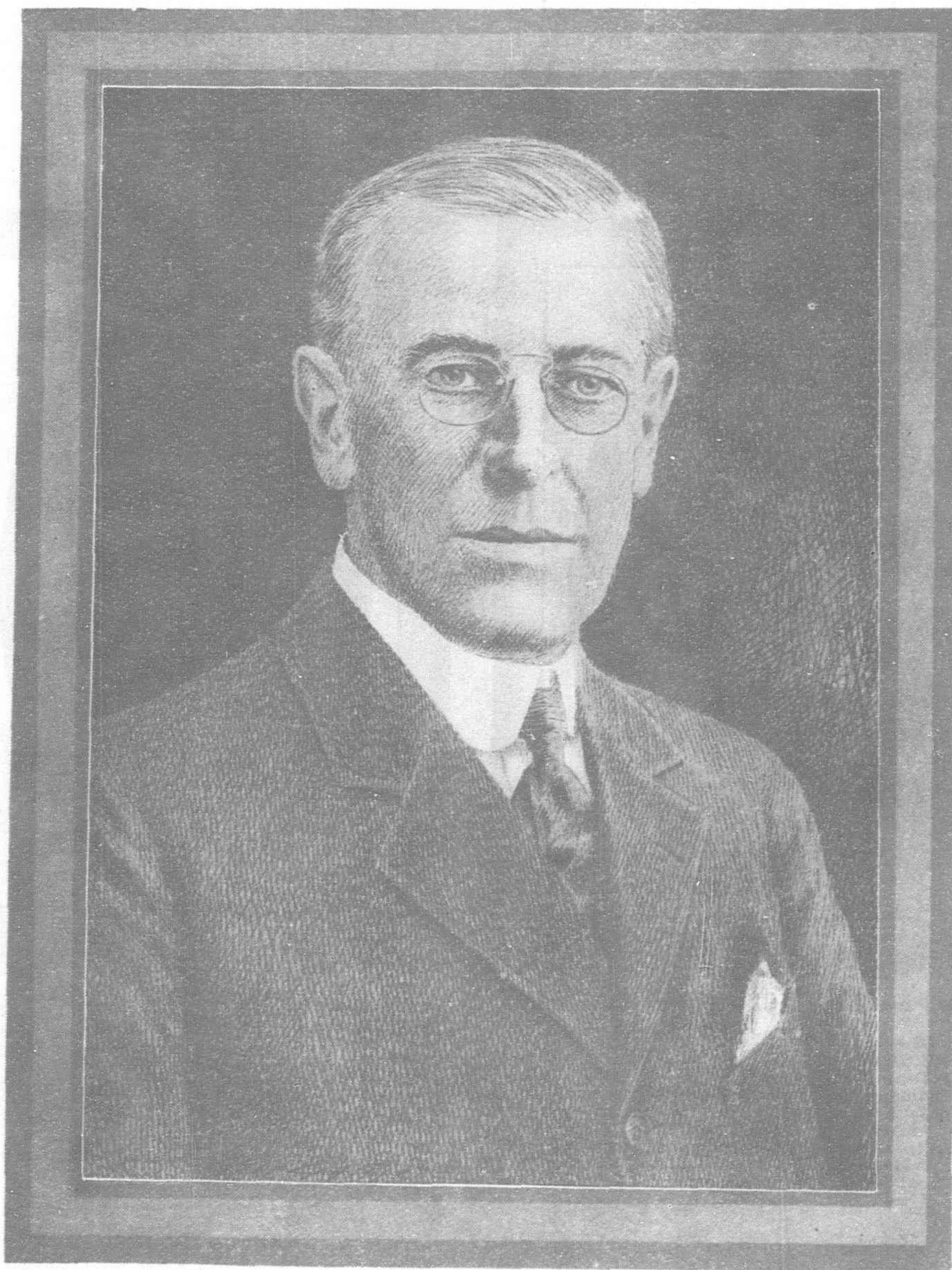
Six red years have passed since 1914. The old Russian empire has passed away. As the Soviet republic gathers strength it will take up the traditional Muscovite program where the old regime left off. It would seem that the opportunity has arrived for the Asiatic to regain possession of his birthright. If China refuses to face her own problems and discharge her natural obligations to Japan, then it behoves the latter to lead the way and to assure to herself and China possession of the outlets required for their overflowing millions. Japan must go somewhere. She cannot go east. She must, therefore, go west, into Asia. The League of Nations was not designed to solve this problem. In a recent defence of the League in the House of Commons Mr. Balfour emphasized the fact that "those who framed the League never contemplated that they were to rearrange Europe. They contemplated that when Europe was rearranged they would see that it was maintained on the principles of peace and equity." The rearrangement of Europe implies the rearrangement of Asia. It implies the rearrangement of the strategical approaches to India, and to any rearrangement of eastern and northeastern Asia that may result from Japan's activities. The League may have to vote on Japan's claims for equality. Unless the United States is a member of the League, it may reverse the Paris decision. Again, it may not; in which case Japan must seek her outlet in Latin America or keep her children at home. Under these perplexing conditions it would seem that Japan is justified in adopting measures in Eastern Asia for the protection of her national existence in the same manner that other powers have defended their own territories against future attack. Then she can go before the League and ask for the recognition of the same principles of peace and equity that have been applied in Europe. If denied to her, the Asiatic problem will again be shifted from Asia into the Pacific.

Not a Pro-Japanese Argument

This is not a pro-Japanese argument. It certainly does not reflect the thought of the Japanese manufacturer, banker and merchant who seek their country's greatness in the peaceful development of trade. Nor is it endorsed by the press or the vast majority of the plain people who must pay the price, and who would prefer, if they have to emigrate, to find their opportunities in more congenial climes and surroundings. It is not an anti-Chinese argument, as they are face to face with the same problem, but with no

government worthy of the name to defend their cause. It is properly American, based on a recognition of fundamental facts and with justice to all. We place the higher interests of America above those of Japan, Russia or China and firmly adhere to the belief that the racial issue, if not solved peacefully by the concert of powers, must in time be faced by some nation. It is impossible to stop the operations of nature's laws in China and Japan. The Asiatic races will multiply rapidly—how rapidly, we may calculate if only we turn to the vital statistics of Korea for an illuminating example. We will then find that the Koreans, despite the "cruelties of Japanese domination," the spread of Christianity and the other arguments employed to invoke sympathy for their

cause, are doubling their numbers in less than thirty years—six times as rapidly as the white man! Within twenty-five years, the Chinese will also increase their numbers by one-half (200,000,000) and hemmed in as they are by Russia, they also will seek their outlet over the Pacific. Just now, they are too busy fighting among themselves to give heed to these conditions, but the day is coming when they too, will begin to question loudly the right of the White Man to exclude them from the lands of the Pacific paradise. Then, China and Japan will come together. Our point of view is that there is no good reason why the youth of America, of Canada or Australia should be forced to go to war in the Pacific and be the catspaws for Russia and consolidate her sway over vast territories in Asia stolen from the Yellow Man and now urgently needed for his own expansion. There is less good reason why American boys should be called upon to lay down their lives out of mere sentimental regard for 400,000,000 sturdy pacifists who refuse to fight for themselves and whose weakness and disorganization invite the conflict. If China will perform her duty, there will be no conflict of the races in the Pacific. It may take place on the



HONORABLE WOODROW WILSON

With all His Faults and Human Limitations a Great President of the United States and the One Figure that Towered over all others at the Conference of Paris. Mr. Wilson was President of the Commission that created the League of Nations and, Largely Because of the Mischievous Sinn-Fein Flirtations of His Subordinate, Colonel Edward M. House, He Felt Bound to Adopt Lord Robert Cecil's Adverse Attitude Towards Racial Equality. "That Requires Unanimity," said the President and the Majority's Amendment was Declared Lost.

plains of Central Asia. That is where it belongs. RUSSIA IS, HAS BEEN, AND PROBABLY WILL BE, THE MENACE TO THE PEACE OF ASIA. There can be no permanent peace in the Pacific, no satisfactory world adjustment, so long as the position of Russia is undefined and she is permitted to retain possession of these Asiatic Alsace-Lorraines that belong to the Yellow Man.

Japan and China cannot fairly expect other nations to open their doors to the surplus millions of Asia in order to facilitate Russia's occupation of their lands which she does not need for her own immediate use. Aside from all considerations of color or creed, morals or thought, which go to make up the stock argu-

ments against the admission of the Asiatic into the White Man's countries, there enters the question of whether the White Nations of the Pacific are warranted in opening their doors to people who have weakly handed over their heritage to Russia without a struggle, and then demand as a right free entrance for their surplus millions into other lands. Japan has recognized this sound doctrine in the "gentlemen's agreement." She has made her fight, she is still making it, manfully and in a manner that should compel respect from all other manly people. It is not unfair or unreasonable for the fighting races of California, of Canada, Australia and Zealand to insist that the Asiatics shall regain possession of their birthright in Asia before they invoke the right of free emigration into the other lands of the Pacific.

Unfortunately for the solidarity of the White races, the British dominions are precluded from supporting a doctrine that undermines the stability of the empire. We cannot expect that France will grow enthusiastic over a doctrine that in any way menaces her position in Indo-China and we can never hope that the idea will be graciously received by Russia. The policies of these nations must be shaped towards preserving their own positions and influence in Asia. In this conflict of interests lies the danger to the peace of the Pacific, and for this reason we are compelled to approach the problem from a different viewpoint, and urge that simple justice be meted out to the Asiatic, in order that the issue be settled where it belongs, in Asia.

The Swing of the Pendulum

Viewing the problem from this angle, we care not for the morals involved in this presentation of the facts. We refuse to get excited about our traditional friendship for Russia, who refused to sign a new treaty of peace and commerce because of American insistence upon justice to the Jews. We look back and recall that our Monroe Doctrine was made necessary in order to head off the Russification of the Pacific Coast of America, and that if Russia and Middle Europe had had their way, the innocent youth of America would before now have paid the penalty for Russian greed in Asia. The propaganda to pit the United States against Japan has been carried on without any consideration for the peace, happiness or welfare of the two countries. The issue, for the present at least, has been thrown back upon the nation that created it. Every clear-thinking American and Anglo-Saxon should heave a sigh of relief and pray for its solution by some equitable rectification of Asiatic frontier.

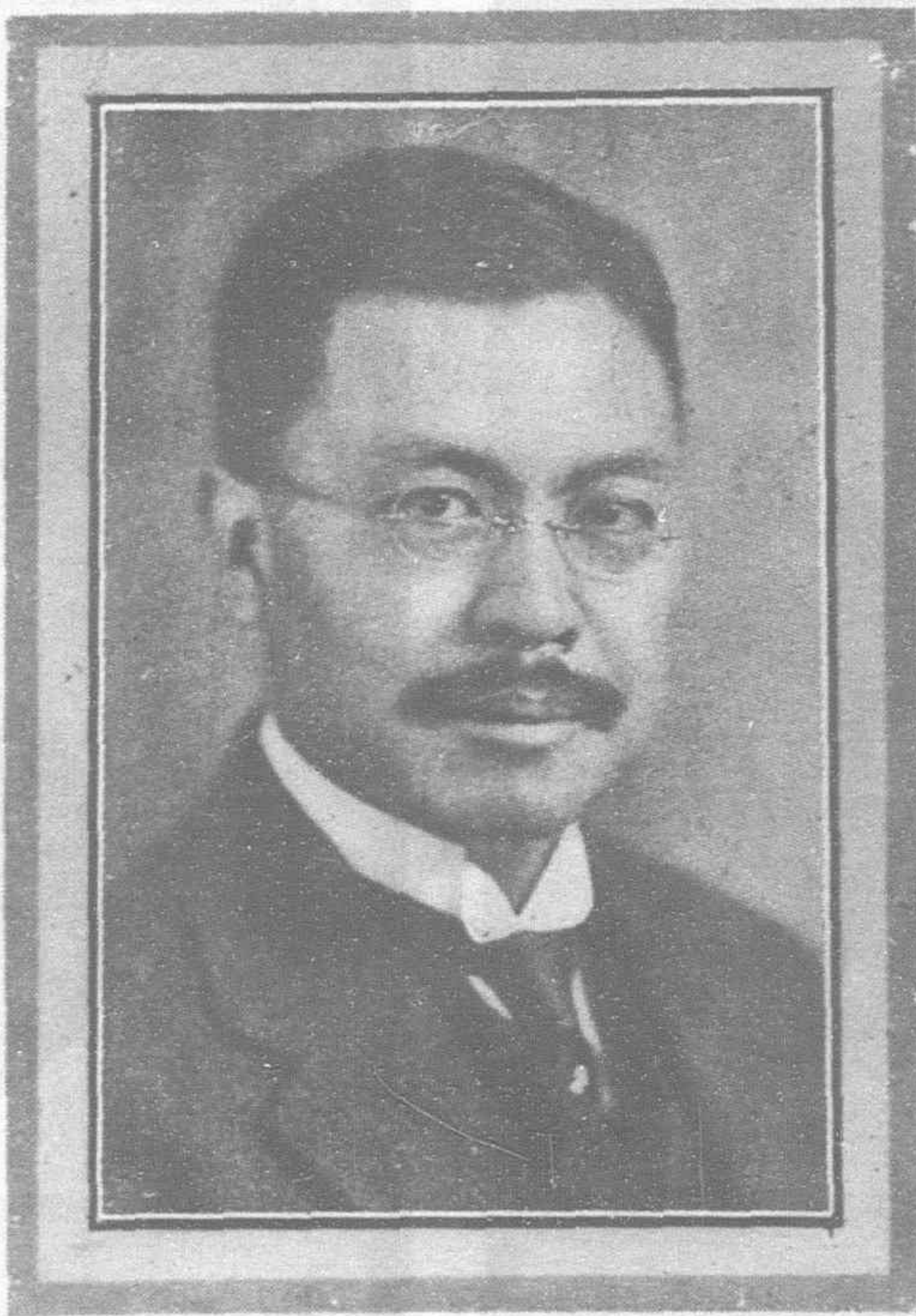
It is quite true that such practical solution would require a sharp deviation from the policy laid down by President Wilson in his message to the Moscow soviets, constituting treatment of Russia as a sort of international touchstone of political morality. That was during a wartime crisis, while Russia was being bamboozled and coerced by the Brest-Litovsk proceedings and before the Bolshevik dictatorship of Lenin and Trotsky had definitely placed Russia, as a political entity, beyond the pale of Allied association and diplomatic relationship with self-respecting, civilized states. Since then too much foul and filthy Russian water has gone under the bridges hurriedly built by the United States and the Allies in a vain endeavor to hold on to Russian friendships and to insert Polish and other wedges between converging Slav and Teuton "drives." The general international situation does not seem to justify a continuance of squeamish weakness in dealing with Russia. Certainly, there is no reason why we should

go out of our way to sustain enemies and to embarrass and weaken friends. Above all, however, it must be remembered that this is not our quarrel, that Russia has ever been devoid of the most elementary conception of justice to others where her own expansion was concerned. We refrained from expressing our ideas of international morality when Russia invited a coalition of European Powers to deprive Japan of the fruits of her victory over China. Japan has her own peculiar problems to solve with Russia, and should, in all fairness, be permitted to solve them in her own way. We should not interfere in Asiatic quarrels, nor should we pronounce judgement upon Japan's present activities and policies, without going back twenty-five years, and honestly trying to understand the fundamental necessity for her doctrine of national preservation. It will help to throw light on the present manifestations of a policy, whose origin has been forgotten, in all countries, save Japan.

Japan's actions cannot fairly be criticised by any of the Western Powers whose exclusion policies have forced her into continental Asia for the preservation of the race. JAPAN IS TAKING STEPS FOR HER NATIONAL AND RACIAL PRESERVATION IN NORTHEASTERN ASIA, IN UNISON WITH THE MEASURED TREAD OF BRITAIN'S LEGIONS IN THE SOUTHWEST FOR THE DEFENSE OF INDIA.

Harking back to the long, bitter struggle waged by Britain for the protection of her empire against the unchanging policy of Russia, whose every step in advance from the northwest was supported by a correspondingly menacing movement on the part of her Ally on the southeast; recalling the fundamental necessity for the Anglo-Japanese Alliance to protect both empires from the common enemy; remembering that since the armistice, Great Britain has created Thibet into a buffer state and driven her outposts deep into Persia, into Mesopotamia and Arabia; the fair-minded Briton cannot judge Japan too harshly for adopting similar measures for her own protection against the dreaded return of "The Bear that Walks Like a Man." The world views with sympathy and understanding the moves of Britain to defend her most precious possession. To criticise and condemn Japan for an identical policy in Eastern Asia, is (to say the least) unsportsmanlike.

American animadversion, particularly, is as unjust as it is unsound. Circumstances have thrown the racial issue back across the Pacific, and no misplaced regard for preserving "the germ of democracy" in Russia should deter us from extending every moral and material support to Japan in this tremendous struggle for racial and national conservation. Her fight is our fight. If her right to exist is not settled in Eastern or Central Asia, if Japan fails and Russia holds these territories, then the day cannot be long deferred when the racial question will once more become the paramount issue of the Pacific. If we are honestly solicitous for the preservation of Russia's territorial integrity, we should, in all fairness, denounce the work of the Peace Conference and withdraw recognition from Poland, and other states hacked out of the old Russian empire in Europe. We should vehemently protest against British moves in Persia, and align ourselves with the Soviet and be done with it. The promotion of the interests of the Russian people in the Far East, at a time when Russia is undoing the work of the Allies in the West and forcing Poland to her knees, is most inconsistent. If we are more interested in the fate of Russia than in safeguarding our own future, let us be open and frank about it, so that the people of America will understand that its government is determined to draw upon them the



AMBASSADOR KIJURO SHIDEHARA

Who Must Bear the Brunt for Japan of Anti-Japanese Agitation in the United States Caused by Failure to Recognize the Asiatic Race Question as a Fundamental Part of Far Eastern Problems. An Able Diplomat.

settlement of the racial question. We refuse to admit the Japanese into the United States, we oppose them in China, and we have now constituted ourselves the champion of Russia against the extension of Japanese influence in Eastern Siberia. The racial issue is narrowing steadily down to a contest between Japan and America. If not peacefully settled, the day may come when the manhood of America and Japan may have to pay for the greed of Russia. We are subjecting the friendship of Japan to a terrific strain, yet she still looks to us for a square deal, for the same just appreciation of her difficulties manifested by us prior to 1905.

"California reposes faith in the intelligence of Japan to understand its attitude." Is it too much for Japan to ask the rest of the world to exercise the same intelligence in trying to understand her position and to sympathize with her difficulties in finding a peaceful solution to the problem that the West has forced upon her?

Any calm study of the fundamentals of this controversy will convince us that no solution of the California question is possible until it is approached and considered as a part of the greater Asiatic problem. The ever-recurring outbursts of anti-Asiatic agitation in America, Canada and Australia are but surface symptoms of a deeply rooted malady and cannot be treated or cured without eradicating and destroying the cause. Until this truth is grasped there can

be no hope for a permanent solution. Japan naturally insists that this can be found only through recognition of the equality of her people with those of other nations—a legitimate, manly and honorable viewpoint. Unfortunately, the rest of the world is not yet prepared to accept this doctrine. Japan, herself, has been very loath to apply it in her own territories and concede equality to Koreans, Formosans, Chinese and other Asiatics. Pride of race and the instinct of racial preservation operate as strongly in Japan as in the West. Without minimizing the inherent justice of Japan's plea, it is safe to say that the world would hear less about racial equality if Japan had more elbow-room and free access to fertile lands that will provide food for her unborn millions and the raw products for her mills. Such lands can be found only on the mainland, in northern Manchuria, for example, the granary of the Far East, held by Russia for purely military purposes, to facilitate the execution of her plan of unlimited expansion.

"Quo Vadis?"

There is an alternative. Japan can satisfy all her critics and keep her people at home. She can invest all her spare wealth

in clearing the slopes of her mountains, turning them into pasturage for herds of sheep and goats. Her million new children a year can be absorbed in the rapid establishment of new industries. She can manufacture clothes from the wool of the sheep raised on hill-top grazing lands. She can keep every cent of her capital at home to develop these industries and provide work for her annual increase of population. But Japan must eat. She must sell the products of mill and factory in the markets of the world in order to obtain the money to purchase her food supply. She will require a huge mercantile marine to distribute her products and import her food. Then, she must have a powerful navy to defend it. On the one hand, she will become the Germany of the East, the successful commercial competitor, incurring bitter animosities and jealousies; and on the other, she will develop into the England of Asia, a maritime power whose very existence depends upon possession of the most powerful navy in the world.

The commercial war has hardly commenced, yet we hear from all quarters of the world the same old outcry, the same arguments, the same hate-creating accusations against Japan that were so successfully employed to stir up enmity against Germany. Deprived of an outlet in America, Australia and Africa, blocked at every step in Asia, Japan is manfully striving to conform to the ideas of the West and seek progress by trade. Yet, from far and near, we hear



From America's Aims and Asia's Aspirations

Dr. V. K. WELLINGTON KOO

Chinese Minister at Washington, D.C., and Recently Appointed as a Delegate to the League of Nations. Dr. Koo was the Chinese representative on the League of Nations Commission at Paris. He supported the plea for Racial and National Equality made by Baron Makino and "Asked that China's Vote be Recorded in Favor of the Principle"—See AMERICA'S AIMS AND ASIA'S ASPIRATIONS.



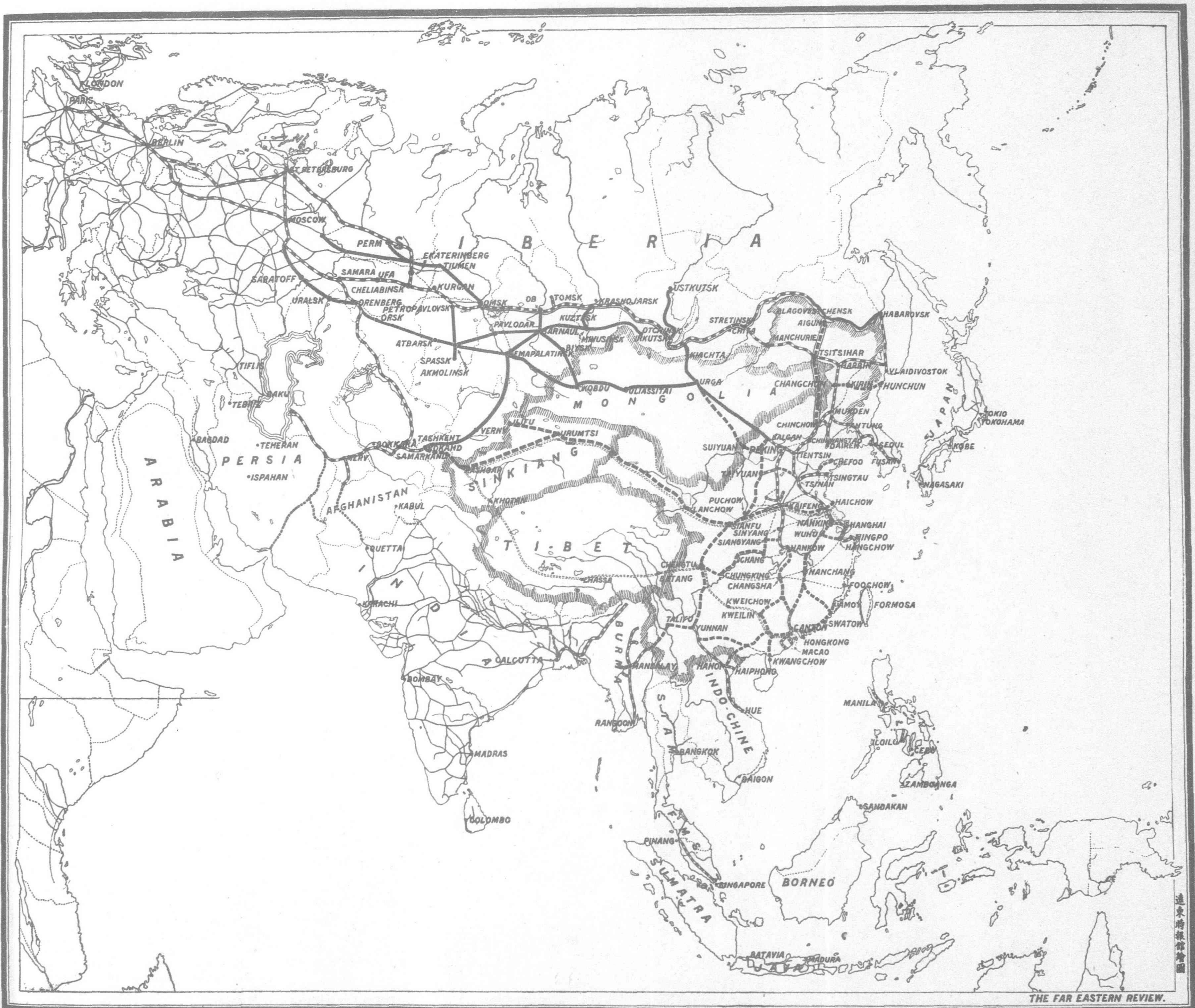
From America's Aims and Asia's Aspirations

Mr. LOU TSENG-TSIANG

Newly-Appointed Chinese Minister at Paris, and Delegate to the League of Nations, who was Chinese Minister for Foreign Affairs and Head of the Chinese Peace Delegation at Paris. An Interesting Inside Story of the Tilt Between Mr. Lou and Dr. C. T. Wang is Given in AMERICA'S AIMS AND ASIA'S ASPIRATIONS. Mr. Lou Possesses Many Friends in Japan, the United States and Europe. He is a Honest Man.

the hoarse howling of the wolf-packs gathering for the chase.

There are two possible roads for Japan to follow. She must go into Asia or out over the seas. The road into Asia must inevitably lead to economic control over Manchuria, Eastern Mongolia, and a mandatory over a buffer state between these territories and Russia. Out of sentimental regard for democracy in Russia it would seem that this solution is being opposed by the Wilson administration. Seemingly, it has never occurred to the President's advisers that their policy can only result in driving Japan on to the sea for existence, thus increasing new points of contact with the United States. Co-operation, commercial partnerships and business understandings would undoubtedly in the long run eliminate the danger spots in these points of contact with Japan and create a mutual respect for each other's viewpoint. The best immediate solution lies in Japan's economic expansion in Eastern Asia; and, when America grasps the full significance of its bearing upon her own future peace and happiness, and the concert of powers supports Japan's plea for equality, there will be a swift end to the California question. The Japanese laborer will remain at home at his well-paid work in fields, factories and mills, while his adventurous brother will be lured westward for



THE CRADLE OF THE RACE PROBLEM

(Reprinted from *THE FAR EASTERN REVIEW* of September, 1912)

THE STORY OF THE MAP.—The Russian program for the conquest of Asia is clearly illustrated in the above map. The solid black lines show the projected railways devised for the subjugation of China, the enslavement of Japan and the conquest of India. From Kokand, the main Central Asian line was to penetrate Sinkiang, and pass down through the Kansu Panhandle to a port on the Yangtze. Another line was to bisect Mongolia from west to east and north to south, while still another line was to split China in twain by connecting Kalgan with Sianfu and through western China to Yunnan, there linking up with the railways of their French Ally in Indo-China. As these railways were built, the country was to be closed to Chinese colonization. Mongolia was set apart as a buffer state into which the Chinese might not penetrate. Japan's one strategic protection against the weakness of China was the South Manchuria Railway, and when Russia practically annexed Mongolia in 1912, and started negotiations in Paris for loans to construct railways in this region, Japan was compelled to advance her strategic outposts to Inner Mongolia along the line of the projected Chinchow-Aigun or Jehol-Taonan railway. The might of Russia denied to the Mongolian his right to expand within the limits of his own civilization. The racial issue was born, here, and forced across the Pacific to the shores of America. If Russia is permitted to work her will in Central Asia, the racial question must in time be solved in the Pacific. This is the story of the map.

the development of the vast natural riches of Manchuria and Mongolia, the granary and storehouse of the industrial life of the nation.

"But," urge the arm-chair moralists; "this solution is unfair: China also needs these lands for her rapidly increasing



From America's Aims and Asia's Aspirations

Dr. C. T. WANG

Who has declined to be a Chinese Delegate to the League of Nations. Dr. Wang was the Real Leader of the Chinese at Paris. His work was good. This Photograph was taken during the Peace conference.

population." Quite true, but the argument loses sight of the pertinent fact (previously outlined) of Russia's possession of Asiatic lands taken by force from the Yellow Man and required for his expansion, a situation that must inevitably shift this whole racial problem upon the innocent shoulders of Americans who have taken no part in the spoliation of Asia. It also ignores the fundamental law of the world, the primary law that gives unto the victor the spoils of battle, the law that has been twice set aside to deprive Japan of the fruits of her victories over China and Russia. Instead of entering the territory of Manchuria as a sovereign. Japan has been compelled through the jealousies of the powers to restrict her activities to partial economic control, and even here China and her friends have moved heaven and earth with their intrigues to deprive Japan of these advantages. However, the legality of Japan's economic position in Manchuria is secured by treaties, and even if China questions their validity in 1923, when the lease to the Kwangtung territory expires, it will be difficult to expel Japan from this vantage point. Let us accept for the sake of argument that the decision may be won by China and that Japan will again meekly bow to the superior might of the stronger powers. The rest of the world must then face a determined, highly-centralized, industrial nation, reaching out to the uttermost markets for the means of subsistence.

The Practical Solution

The most practical solution of this perplexing problem would seem to lie in some harmonious understanding between China and Japan, based upon some division of this disputed territory and joint responsibility for the preservation of lands required for mutual expansion; or some special arrangement assuring to Japan definite economic rights and privileges. We must accept the fact that the West is not yet prepared to recognize equality of the

races in its bearing upon freedom of immigration, and that the surplus millions of China and Japan must be absorbed in Eastern Asia. Here, their path has been blocked by Russia. The first step towards a solution of the problem is therefore the recovery by international agreement or otherwise, of the lands belonging to China and her Asiatic neighbors which have been forcibly annexed and closed against their colonization. It goes without saying, that China, unaided or of her own initiative, will never make a move to face Russia, either in diplomacy or in arms. Only under the leadership of Japan, backed with the full moral and material support of the United States and Great Britain, can the future expansion of both people be assured and the peace of the Pacific preserved. As the population of China increases and these lands are colonized, the racial issue will shape itself into a contest between the Mongol and the Slav for the right to exist and will be settled on the plains of Central Asia, where it belongs. This is as it should be. China and Japan, excluded from the garden lands of the West, have a common cause to defend, a common destiny to work out, a common interest in the protection of their birthright in Asia. They should be friends, very good friends.

Both nations must give and take in arriving at such an understanding. Japan needs Manchuria as a guaranteed source of food supply and as a strategic base to defend her empire against Russia. China's past and present inability to protect this territory, and her tendency to facilitate Russia's designs upon Japan, constitute a supreme strategical reason why Japan must retain her foothold. China's pathetic inability to protect her sovereignty, which resulted in Russia's practical annexation of Mongolia, seriously impaired Japan's position by exposing her flank to easy attack from that direction. Japan was compelled to extend her influence and special interest to Inner Mongolia. This move was not directed against China in order to facilitate an attack upon Peking. It was not proof that Japan was bent upon conquest or ultimate annexation of these territories. It was no evidence of Japan's militarism or imperialism, but the common-sense move of an intelligent nation to defend itself against the wanton inefficiency of a neighbor, a principle that has been applied in all other parts of the world wherever and whenever a weaker nation has menaced the existence of a stronger and better organized state. It is along the lines of the self-same principle that America has applied in Cuba, in Panama, in Nicaragua, not to speak of Porto Rico, Southern California and the Virgin Isle—for our own security against attack. The future of China and Japan can only be assured by constant vigilance along the borderlands of Mongolia. The line of defence lies not in the districts of Kalgan, Dolor-nor and other points along the Inner Mongolian border. The security of China, of Japan, of the Yellow races, may be assured only when railways have been built and their army divisions are quartered in Urga, Uliassitai, Kobdo, Ili, and other strategic points along the far-flung border lands of Mongolia and Hsinking. Once these railways are constructed and Sino-Japanese armies have been planted along the Altai border, within striking distance of the Trans-Siberian railway, never again may Russia hope to menace Japan or dictate her will at Peking. China could afford to pay well for this assurance of national security. Japan could sacrifice much for similar guarantees.

Japan Could Sacrifice Much for Chinese Friendship

China demands the restoration of the German rights in Shantung now held by Japan. The European Powers stand with Japan on the Shantung question and its bearing upon the 1915 treaties. China bargained away her position for a mess of pottage in 1918, and she may find it difficult to reopen the question through an international conference. Japan is ready to negotiate with China and to comply with her promises to evacuate Shantung and restore to China her full sovereignty, reserving only the railway and mining rights. Japan does not want Shantung. Her one preoccupation is to prevent the port of Tsingtau from ever again being handed over as a naval base to some other Power. The internationalization of this port will probably meet fully the desires of Japan on this point. If approached in a spirit of

compromise, Japan might be induced to surrender to China or the Consortium Powers, the railways and mines. This would settle the Shantung question to the satisfaction of all concerned.

Japan could sacrifice much for the friendship of China. China could gain much by this friendship. Aside from the Shantung muddle, created by China's own folly and stubbornness, there remains only the major question of Japan's position in Manchuria for amicable adjustment. Here, China and the rest of the world must face the cold, hard facts. Japan won her right to that territory in 1895 and was compelled to surrender the fruits of her victory by and for Russia and her associates. A grateful China then entered into a secret alliance with Russia, and in effect handed over the Three Eastern Provinces to her ally as a base for operations against Japan. Again, Japan had to fight for her own existence and she reconquered the province. Again, all she was permitted to acquire as the fruits of her sacrifices were the Russian rights to the railway and the 25 year lease to Kwangtung. China, who had invited the conflict and handed over her territory to facilitate the destruction of Japan, escaped scot free. From 1905 to date, the entire weight of Chinese diplomacy has been centered upon dislodging Japan from Manchuria, while secretly paving the way for Russia again to manoeuvre into a favorable position to resume the conflict. The story is a long one, but the facts are irrefutable. When the Great War broke out, China was in the jaws of a huge Russian trap, through the latter's interest in the Belgian railways. Japan had no other course than to attack Germany at Tsingtau, and to forestall Russia and England in the occupation of this strategical position. When all the crooked chapters of China's railway intrigues are known, it must be conceded that there was

a certain amount of justification for the Manchurian provisions of the Twenty-One Demands.

Other powerful peoples who apply the doctrine of self-preservation in the lands of weaker states when their own existence is menaced cannot justly condemn Japan for following their example. The menace to China, to Japan, to India, to all Asia, and now to Europe, is Russia. Great Britain is taking no chances against the resurrection of her formidable opponent. Her armies have been constantly occupied during and after the war in strengthening the vulnerable spots on the road to India against the day when Russia will again resume her traditional tactics. Not a word of criticism is heard throughout the world against these moves of Britain. France has her Rhine bridge-heads and other guarantees against German revenge, Italy her Fiume, and other nations have secured themselves in one way or another against attack by possible enemies. The Japanese have assured the world that they do not covet the lands of their neighbors, that they are solely intent upon safeguarding their own independence. They are right. Japan's one natural guarantee against Russia is, and should be, China. If China cannot supply that assurance, then Japan has no other course than to step into the breach and provide her own guarantees. Japan will be just to Russia. Russia must be just to Japan. Japan is taking no chances and is creating her own guarantees against the day when the Russian people enter the family of nations as brothers and friends. This is the underlying reason for the activity of the Japanese in Manchuria and Siberia. They are applying the same principle that other nations have found necessary to protect themselves against ancient and formidable enemies. As long as



From America's Aims and Asia's Aspirations

THE "BIG FOUR" IN "THE ROOM OF THE FLIRT"

Making the Treaty of Peace at The President's Paris Residence in the Place des Etats-Unis. From Left to Right (seated) Premier Orlando of Italy; Premier David Lloyd George of England; Premier Georges Clemenceau of France; and President Woodrow Wilson of the United States; (standing) Premier Orlando's Secretary, Sir Maurice Hankey, Secretary to Mr. Lloyd George and Lieutenant Mantoux, Secretary to M. Clemenceau and Justly Celebrated for His Wonderful Linguistic Feats as Interpreter of the Peace Conference.

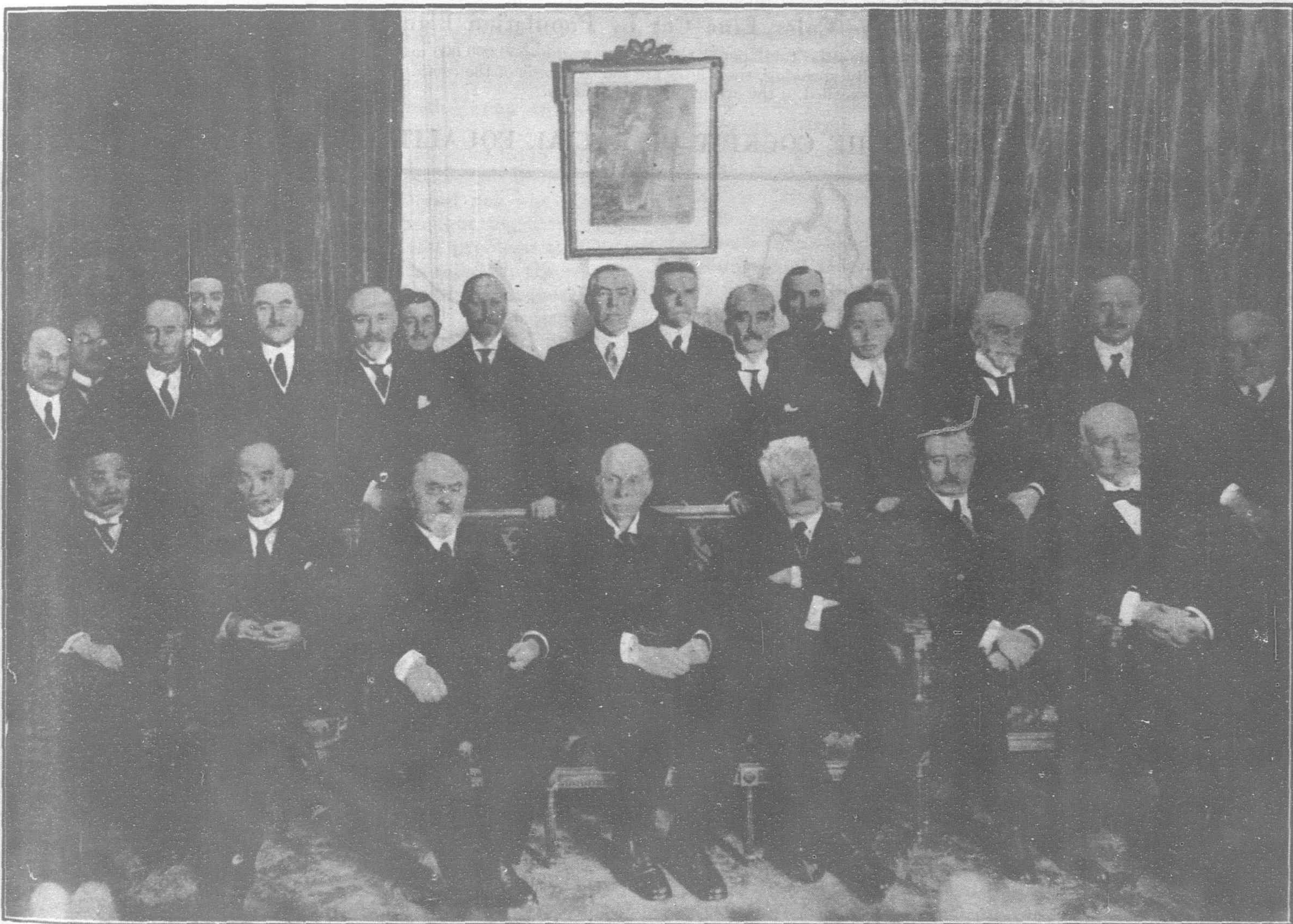
China cannot assume her international obligations and guarantee her neutrality, then Japan must remain in Manchuria, always ready, always prepared, against the day when the Muscovite will again start on his devastating march to the sea.

Basis of a Sino-Japanese Agreement

What is the solution to this situation? It would seem that the real solution is some understanding between China and Japan entered into with the full approval of the United States, Great Britain and France. It could operate as another regional understanding, supplementing and reinforcing the Anglo-Japanese Alliance and superseding the many separate agreements between Japan and other countries, such as the Root-Takahira, Lansing-Ishii, Franco-Japanese and other compacts having for their object recognition of China's sovereignty and the Open Door. The purpose of the agreement would be the preservation of Mongolia, Hsinking and other outlying territories, insuring to the millions of China an outlet within the limits of their traditional civilization and could be confined in its operation to territories north of the Great Wall, or in those lands urgently required for Mongolian colonization. Such an agreement, supported by the United States, Great Britain and France, would adequately safeguard India from Russian attack through Thibet and would lead to the restoration of Chinese sovereignty over this region, thus opening up another closed territory to Chinese colonization and enterprise. As the years of the century roll past, and the 400,000,000 Chinese double their numbers, they may find their opportunity within their own lands.

An understanding that will provide for Japanese co-operation with the armies of China, strung out along the borders of Central Asia, the Altai slopes and the Mongolian desert, is the surest guarantee that the Mongolian races will be permitted full development within the confines of their own civilization. That is not unfair to Russia. If Germany has had to provide guarantees for the preservation of European peace, when a stable government is organized in Russia the rest of the world should exact similar guarantees for the preservation of the peace of Asia. From a military viewpoint such a guarantee would undoubtedly take the form of a buffer state east of Baikal, or the establishment of Sino-Japanese army divisions at Urga, Kiachta, and other points along the Mongolian border, that could cut and control Russia's line of communication to the Far East and the Pacific coast. Such an agreement would only be simple justice to all Western peoples, especially Americans, now menaced by the perennial outbursts of anti-Asiatic frenzy. It offers restoration to China of that which has been denied to her by the might of Russia, that which she must have in the course of the present century, if she is to find room for her mounting millions of people.

China will probably refuse to consider such a proposition and carry her case to the League. Mr. Balfour's explanation of the objects of the League would however emphasize that it will not attempt to rearrange the map or redress all the wrongs of Asia. China will not be permitted to repeat the folly of the Peace Conference and convert the League into a court for the trial of Japan. As constituted for the present (with the United States on the outside) the League may, and undoubtedly will, confirm



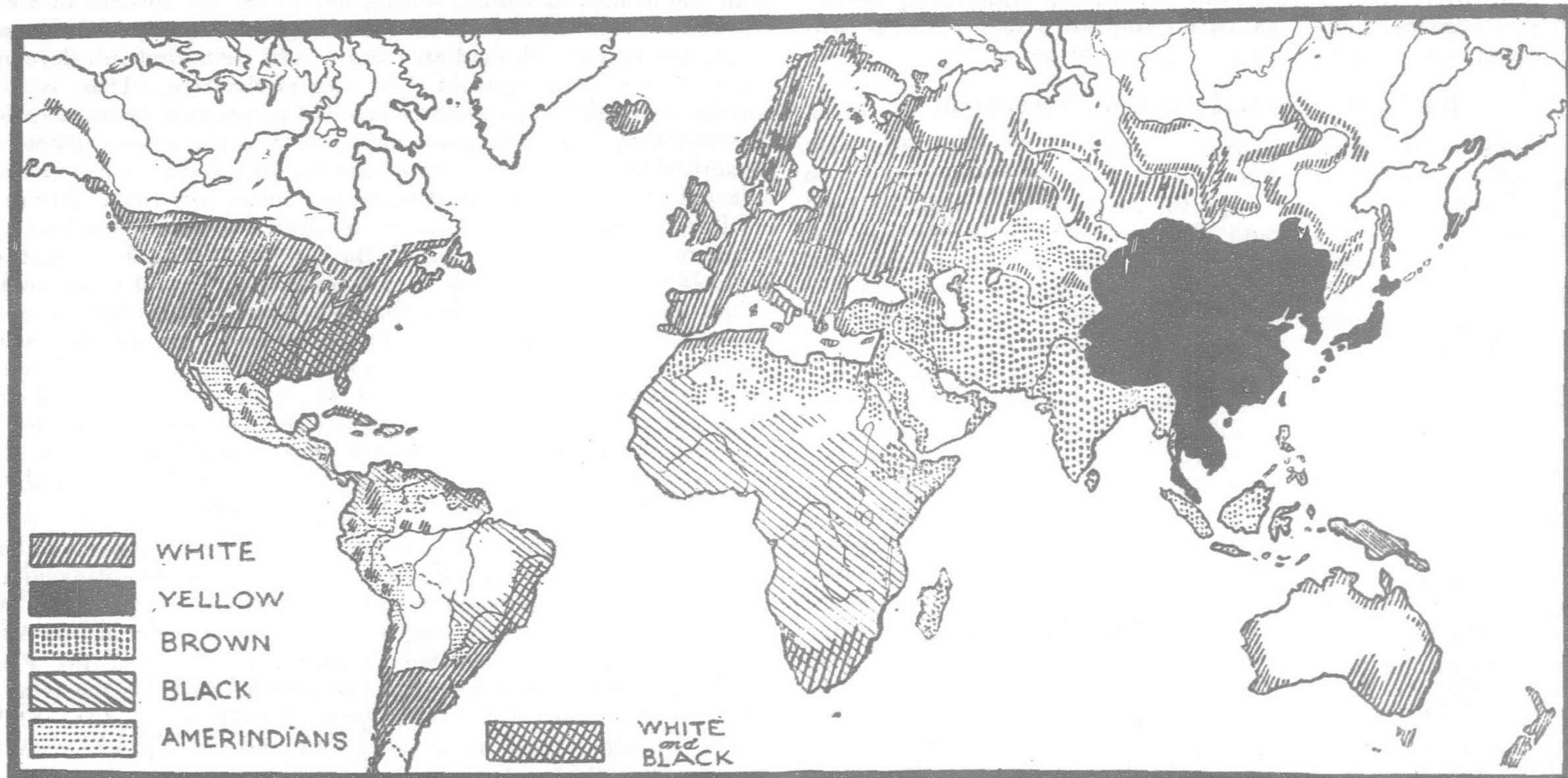
From *America's Aims and Asia's Aspirations*

THE LEAGUE OF NATIONS COMMISSION

Photographed in The Room at the Hotel Crillon, Paris, Where the League Covenant was Designed and Adopted. The Meetings of the Commission were Held in the Evening and Late at Night (Sometimes Continuing Until After Midnight) in this Sitting-Room Forming Part of Colonel E. M. House's Suite at the Headquarters of the American Peace Mission on the Place de la Concorde. The Commissioners Seated in the Foreground are (reading from Left to Right) Viscount Chinda, Baron Makino, M. Leon Bourgeois, Lord Robert Cecil, Premier Orlando—and Premier Venizelos of Greece. Colonel House is standing just Behind and Between Viscount Chinda and Baron Makino; the President is Behind Lord Robert Cecil and Dr. Koo is Standing Behind and to the Right of Mr. Orlando. The Failure of These "Masters of Mankind" to Evolve a Practical League of Nations Thrust the Race Question into the Forefront of International Politics.

On the above map, the recent Japanese invasion of Manchuria is shown in the top right corner.

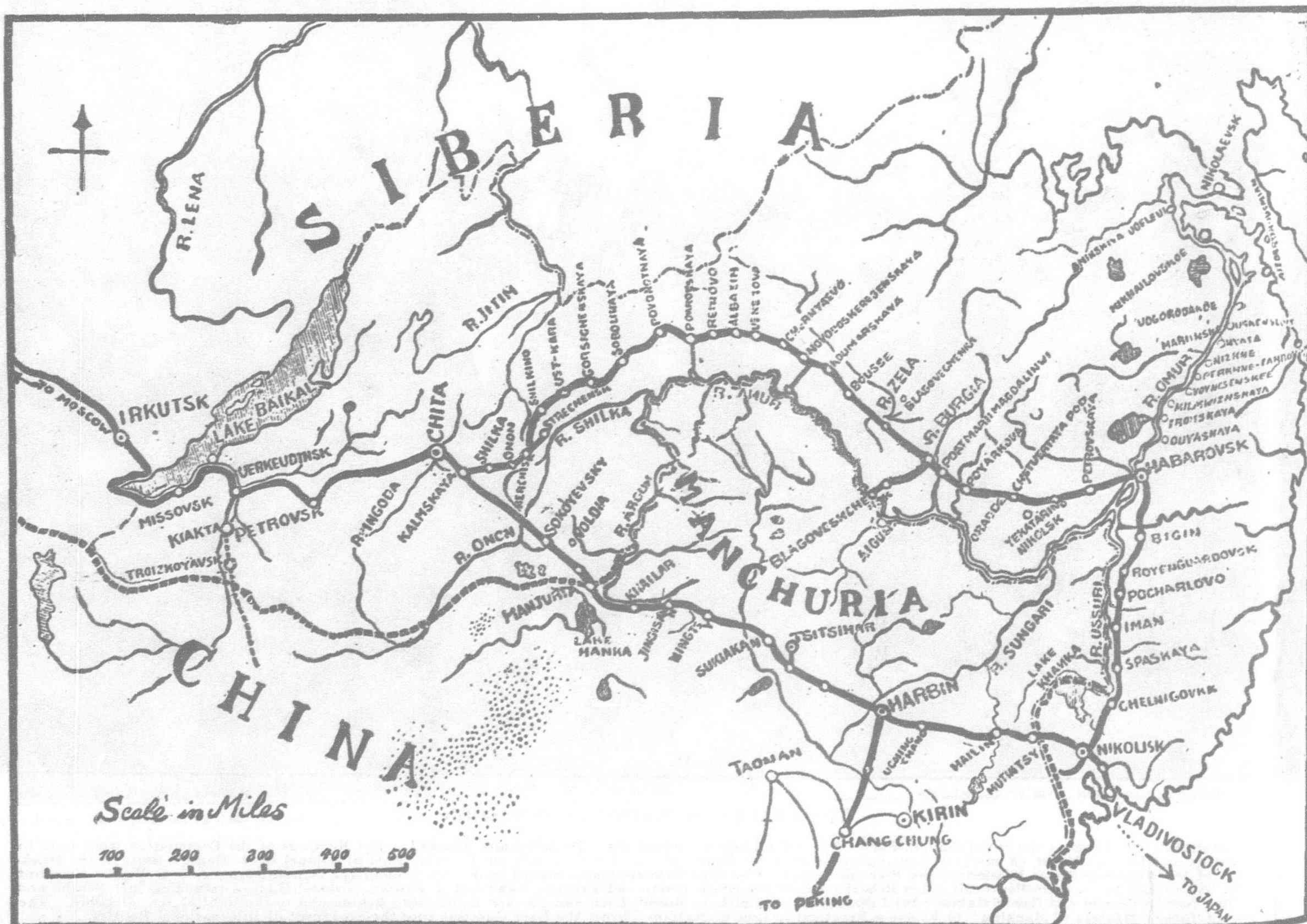
THE RACE MAP OF THE WORLD



The Color Line Cut by Population Figures

It is estimated that of 1,700,000,000 people—the total population of the world—550,000,000 are white, 550,000,000 yellow, 450,000,000 brown, 150,000,000 black and 40,000,000 red. Politically speaking, the whites are the overlords of the earth. The white and yellow races are about equal in numbers and both white and yellow races have excelled in the evolution of civilization.

THE COCKPIT OF RACIAL EQUALITY



On the above map Nikolaevsk, the scene of the recent Massacre of Japanese by Russian troops is seen plainly in the top right hand corner.

the decision of the Peace Conference. The League, with Russia on the outside, is powerless to enforce its mandates in Central Asia, and even with Russia restored to sanity and admitted as a member state, the other members may have to accept her vital policies in the same spirit as they have accepted those of the Big Five. Russia's basic policy, her Monroe Doctrine, her law of self-preservation, is directed against the normal development of China within her own territories. In the last analysis, China's hope for peaceful development, short of complete rejuvenation, lies, not with the League (whose power cannot be exercised over Russia in the depths of Central Asia), but in some friendly understanding with Japan, supported by Britain, France and America.

The Great Powers have exacted certain guarantees from the newly created states of Europe. They must defend their independence and act as a buffer for the security of the larger states. Japan has the undoubted right to demand similar guarantees from China for the fulfillment of her obligations as a neighbor, and to hold in check the advance of the Slav. China must pay the price for her independence. If China cannot provide satisfactory guarantees, Japan must act to safeguard her national existence. If China falls, Japan falls with her. Their destinies are interwoven. Strategically, the principle is the same as the one which determined the entrance of Britain into the Great War. The violation of Belgium's neutrality was a direct blow at the life of Great Britain. If Belgium had passed completely under German rule, Britain would have had to fight against terrible odds to preserve her existence as a nation. The violation of China is a blow at the life of Japan. Politically, China and Japan stand together, over a quarter of humanity barred from other lands, who must work out their own salvation within the limits of their traditional civilization. The League cannot guarantee China against attack by Russia, therefore it cannot be depended upon to come to the assistance of Japan in the event that China fails in her role of a buffer. No Western army will ever be disembarked upon the shores of Eastern Asia to fight with Japan and China against the tidal wave of Slav penetration.

If there is to be peace with justice in Europe, there must be peace with justice in Asia. There must be justice to China, justice to Japan. If the world is seeking peace (and not war) in the Pacific, then, these two nations must be brought together. This provides a basis for settling one of the gravest problems that now make for another upheaval. If the basis is rejected, the responsibility for the solution of the racial problem is cast squarely up to the three Asiatic nations chiefly concerned. If the issue is to be settled in Asia, then the rest of the world should pursue a policy of HANDS OFF!

B.-A.T. Co. Now Hongkong Company

FROM October 1, the British-American Tobacco Co.'s Far Eastern concerns will be directed from Hongkong. Mr. T. F. Cobbs and General MacNaughton are now in the British South China metropolis organizing the new headquarters. Lord Atcheson is attending to important matters at Peking and persistent reports connect the B.-A.T. Co. with the negotiations now being conducted between Mr. G. W. Frodsham of the Pekin Syndicate and Chang Shou-lin, director of the Chinese government wine and tobacco bureau. Several interesting and important announcements are expected in the near future.

The British order in council laying down stringent rules for the conduct of British China companies necessitated a complete reorganization of the B.-A.T. Co. control. The British home and China officials, taking into consideration the huge interests involved, allowed the company ample time to make the necessary changes in incorporation. These have now been effected. The directors will reside in Hongkong and the company operates as a purely British concern. THE FAR EASTERN REVIEW is assured that Mr. Cobbs and the other Americans who have been active in the management will continue with the company, whose British-American parent corporation is headed by Mr. James Buchanan Duke, founder of the American Tobacco Co.

Peking semi-official reports deny that either the B.-A.T. Co. or the Pekin Syndicate is in any way connected with the admit-

ted negotiations for the formation of a British-Chinese Tobacco establishment with a capital of £2,000,000, one-half British and one-half Chinese. The French minister at Peking is reported to have lodged a protest against any tobacco loan transaction with the Chinese wine and tobacco bureau, along lines similar to those followed when Mr. Loos Williams was named as co-director of the bureau.

It has been known for some time that the Liggett & Meyers Tobacco Co. and the Lorillard Co., two of the former subsidiaries of the American Tobacco Co. are planning to enter the Chinese and Far Eastern field on a huge scale. From this fact, and other international circumstances—oil, for example—there has been more than a little talk of a possible separation of interest on the part of British and American tobacco combinations that were brought together when Mr. Duke promoted the mergers and developments controlled by the A.T. Co. until the U.S. Supreme Court issued its "divorce" decree during the administration of President Taft. The presence in China of General MacNaughton and Lord Atcheson and the passing of Shanghai as the headquarters of the B.-A.T. Co. are cited as confirmation of this godown gossip. That such an eventuality would be regretted by Americans and Britons in the Far East goes without saying. The partnership has been a profitable one—in more ways than dollars and cents and pounds and pence.

The Russo-Chinese-German Combination

IN confirmation of statements made in previous issues of THE FAR EASTERN REVIEW, the Peking government on September 23 terminated official recognition of the Russian diplomatic and consular officials who have continued acting since the collapse of orderly government in Russia. The French flag now flies over the Russo-Asiatic Bank in Shanghai and the Chinese flag over the Russian concession in Tientsin. Over 300,000 Russians in China are left without extraterritorial rights.

While one of the reasons for the Peking action was undoubtedly financial—to escape payment of the Russian Boxer indemnity and the cost of sustaining Russian officials in China—there is not the least doubt that this is the first move in a deliberate plan to strengthen relations with the Bolshevik Russians and the Berlin government and to force the Treaty Powers to relinquish rights and concessions secured since the commencement of treaty relations. It is reported to THE FAR EASTERN REVIEW that German officials now in China have offered to support a plan to take the Maritime Customs and other foreign-controlled organs out of their present management and put them in Chinese hands. Advice is given that the case be taken to the League of Nations along with the Kiaochau appeal. Negotiations with the Bolsheviks are proceeding steadily. The Chinese, it is said on good authority, have been offered nullification of the Kiachta Convention and important amendment of Russo-Chinese Manchurian agreements.

VLADIVOSTOK SELLING STORED GOODS.—The provisional government has decided to sell the goods it has in the harbor warehouses. Already, sales to the value of Y.2,325,000 have been made. It is said that sales to the value of Y.5,000,000 more can be made. Besides other foreigners, it is said that the Japanese firm of Okura bought Y.40,000 worth of goods.

LARGE RUSSIAN WOOLLEN CLOTH ORDER.—It is reported that Semenoff has placed an order with the Mammo Keori Kaisha for 200,000 yards of woollen cloth, but that the company has refused to open direct business relations with Russia and negotiations have consequently been in progress with Okura & Company. The reason why the order was placed in Japan instead of in America is because of the comparatively small quantity, the difference of freight, and the facility for getting the goods at once. It is not supposed, however, that such orders will be repeated.

A Japanese Review of International Finance

President Kujiwara's Report to the Yokohama Specie Bank

THE report of Mr. N. Kujiwara, president of the Yokohama Specie Bank, made to the stockholders at the eighty-first general meeting held on September 10 at the bank building in Yokohama, gives an interesting review of Japanese and international finance during the first half of the current year. The accounts of the bank, as submitted with this report, will be found on page 6 of the advertising section of this issue of THE FAR EASTERN REVIEW.

Mr. Kujiwara said that in the early stage of the term under review economic circles presented such an active tone that it was thought the year might witness unprecedented prosperity as in the years immediately preceding. Naturally various enterprises were planned and launched throughout the country, the total capital funds for these during the first three months of the year reaching Y.2,700,000,000. In share circles, too, transactions were unusually brisk. On the raw silk market the maximum quotations at the time ruled at Y.4,300 per 100 *kin*, thus breaking the record. The quotations of cotton yarn, sugar, etc., also showed an upward tendency. The balance of the country's foreign trade showed, however, imports to be steadily exceeding exports each month—a fact which was not recorded during the European war or even immediately following. The public then began to entertain some anxiety as to future prospects in financial and economic circles.

The March Slump

In the middle of March there was a sudden slump on the Stock Market, and this was soon followed by a sharp decline in the price of various commodities. In April the situation became worse, and many weavers in the silk industrial districts were obliged to either suspend operations or curtail working hours. Meanwhile there was a run on various banks, and many cases of bankruptcy were reported among leading commercial houses, due to a sharp fall in the price of cotton yarn, raw silk, etc., while shares continued to decline. To prevent a big crisis the Bank of Japan and other leading banks granted accommodation to many firms in difficulty, and thus the situation was temporarily saved. In commercial and industrial circles there were not a few firms whose condition required urgent adjustment, and in the midst of such distress the term under review came to an end.

Despite the economic depression the Central Government thrice issued Temporary Exchequer Bonds amounting altogether to Y.120,000,000, part of which was invested in various private enterprises of a sound character. Municipal loans and company debentures were also issued with some success. The discount sale by the Specie Bank of export and import bills amounted to considerable figures.

The Country's Foreign Trade

During the term under review the country's foreign trade amounted to Y.2,753,000,000, exports representing Y.1,138,000,000 and imports Y.1,615,000,000, showing an excess of imports over exports to the value of Y.477,000,000. Compared with the corresponding period of last year, there was an increase of Y.311,000,000 in exports and of Y.567,000,000 in imports. Of the principal exports during the term, raw silk showed an increase of Y.60,000,000 as compared with the corresponding term last year, silk fabrics Y.51,000,000, cotton fabrics Y.46,000,000, refined sugar Y.17,000,000, waste silk Y.14,000,000, and cotton yarn Y.11,000,000. Other exports also showed a general increase, except in a few cases, including beans, which showed a decline of Y.5,000,000. Among the imports raw cotton increased by Y.226,000,000, wool by Y.68,000,000, oil cake by Y.47,000,000, steel and iron by Y.45,000,000, and beans by Y.17,000,000. Among the imports which declined was rice, which showed a falling-off of Y.72,000,000. It

is re-assuring to note that the exports during the term showed an increase over the corresponding term of last year, although the shipments of arms and ammunition fell off considerably as a natural outcome of the return of world peace. In the import trade there was a remarkable increase in raw materials, iron, fertilizers, etc.

In proportion to the development of the country's foreign trade the exchange business of the Specie Bank has increased. The bills sold amounted to over Y.66,000,000 and those purchased to over Y.672,000,000, making a total of over Y.738,000,000. Compared with the corresponding period of last year, there was a decrease of Y.162,000,000 in bills sold, but an increase of over Y.304,000,000 in bills purchased. The selling bills forwarded to Japan from abroad amounted to over Y.247,000,000 and the purchasing bills to over Y.892,000,000, the figures showing an increase of Y.13,000,000 and Y.392,000,000 respectively as against the corresponding term of last year. Altogether there was an increase of over Y.548,000,000. The Bank was, therefore, in urgent need of funds to meet the requirements of traders, and thus monetary transactions were exceedingly brisk. The import trade was so brisk that the exchange purchase money for Japan in England and the United States was nearly exhausted at one time and the Bank experienced great difficulty in dealing with the situation.

Economic Conditions Abroad

In America and Europe the greatest care was taken in minimizing the consumption of various articles and increasing the output and exports. Industries were not restored to their former status on account of the scarcity of fuel, raw materials and labor, while commercial and industrial men in Europe were able to obtain a supply of funds from the United States. The payment by Germany of the war indemnities to the Allied Powers was out of the question. Under these circumstances, economic circles in Europe showed no improvement. In England the bank rate showed an advance as a result of the re-adjustment of *post bellum* business and a consequent demand for funds. On April 14 the British government raised its rate of interest on Exchequer Bonds from 5½ to 6½ per cent. per annum, and on the following day the Bank of England raised its standard discount rate from 6 to 7 per cent. Money invested in England and in her over-seas territories, as well as in foreign countries, during the term under review amounted to £234,000,000, being a decrease of £151,000,000 as compared with the corresponding period of last year. However, exports from and imports to England amounted to £773,000,000 and £1,033,000,000 respectively, showing an increase of £383,000,000 in exports and of £17,000,000 in imports as against the corresponding period of last year. According to the Board of Trade returns, the receipts from various sources other than foreign trade are estimated at £53,000,000 per month on an average. This amount is more than sufficient to cover the excess of imports over exports, and it is hardly necessary to point out that the foundations of British economics and finance remain as firm as ever.

America's Horn of Plenty

In the United States funds were plentiful, due to the war, and though measures were taken to withdraw currency to a certain extent for the purpose of placing restrictions on speculation, the funds needed for new enterprises during January amounted to \$2,100,000,000. Foreign trade continued brisk, the exports exceeding imports to the amount of \$268,000,000 per month. Since April, however, a depression has set in as a result of a general strike of railwaymen and the consequent congestion of goods at various points, and a diminution in the output of the factories.

In France the foreign trade showed signs of a revival, and owing to favorable climatic conditions the harvests are expected to be abundant. The Bank of France raised the standard discount rate from 5 to 6 per cent. on April 8 for the first time since the outbreak of the war. Exports during the first five months of the year amounted to 5,960,000,000 francs, and imports to 13,030,000,000 francs, resulting in an excess of imports over exports to the amount of 7,070,000,000 francs. Compared with the first half of last year, the imports during the term showed an increase of 1,920,000,000 francs.

J (Just) A (About) P (People)

A MAN who is as well-known in Asia, in Polynesia, in Europe, as in America; a big business man who takes a large view of everything and a fair view of all people—that is Judge Elbert H. Gary, the Steelmaster. Young China, looking around the world for good examples of modern progress, will be interested in a remarkably instructive sketch of the great steel magnate, printed in *Hearst's*. It is from the pen of Mr. B. C. Forbes, the biographer of big business men. The Judge, we are told, made his first investment while earning \$12 a week; "to-day he is chairman of a corporation that pays \$1,000,000 a week in taxes." Says Mr. Forbes:

At twenty-seven Elbert H. Gary, although born a farm lad, had established and controlled a bank.

He made his first investment while he was getting a salary of only \$12 a week. In company with three others, he bought a piece of land on the outskirts of Chicago, and sold out at a substantial profit.

When twenty-two, solely through his own earnings and savings, he owned his own home—not a pretentious one, to be sure, but comfortable.

By the time he was thirty-five he had acquired several hundred acres of high-grade farming land.

Later, Gary sensed the vast possibilities of the steel industry and began to invest substantially in steel companies. He organized, as the lawyer for the owners, the Consolidated Wire Company, in Chicago, and so well did he handle it that he became a director and was soon recognized as one of the ablest factors in the steel industry. Having placed his feet on the steel ladder through careful saving and judicious investment of his funds, he rapidly rose towards the top. It was Judge Gary who was the central figure in organizing the Federal Steel Corporation with a capital of \$200,000,000—an achievement which the late J. P. Morgan declared was a bigger feat than the subsequent formation of the billion-dollar United States Steel Corporation. And, of course, it was solely his previous record

as a masterly executive which won Judge Gary the chairmanship of the greatest industrial corporation the world has ever known.

"Even as a boy working on my father's farm," said the Judge, "I realized the soundness of the advice given me by my father to live frugally, earn as much as possible, husband my money, and thus pave the way for advancement in the world. My father owned a large farm and was well off in that sense, but we never had any considerable amount of cash. We didn't need it. I was taught to give liberally to the church, but to spend little on anything else."

Let me here interpolate that the son handsomely lived up to this admonition, for years later he erected to the memory of his parents a church building costing \$100,000 and he presented a whole block, worth \$50,000, as an endowment, in his home town as the site for a very fine church. He also erected at Gary, Indiana, a Y. M. C. A. building at a cost of \$200,000.

"After doing a full share of the hard work of the farm, I entered a law office," said the Judge, "and in due course entered the law school in Chicago. My father advanced the necessary money, but I made it my business to repay every dollar from the first of my savings—not that he needed or wanted the money, but my self-respect would not allow me to remain in debt. On graduating from the law school, I had to take the lowest job in the clerk's office of the Superior Court of Chicago, but I worked so hard that in less than a year I was made chief clerk.

"From the very start I made it a rule to save money, to spend less than I earned. It seemed very plain to me, and I cannot understand why it is not plain to every young man, that the only way one can ever hope to gain independence and to make one's way in the world is to accumulate capital on just as large a scale as one's earnings will permit. It was also very clear to me that the only way to earn enough to leave some over for saving was not only to work as hard as possible but to concentrate upon one's work every ounce of intelligence and thought and study at one's command. It seemed the natural thing for me to do to reach the office before anyone else every morning, and then to become so interested in the work that I forgot there was such a thing as a clock.

"In almost every line of endeavor it is exceedingly important to store a great deal of information in the mind and retain it there. I began to fill my mind with the things

pertaining to my profession. Because of my intense interest in my work and my determination to master it, it was comparatively easy to cultivate a good memory. Many a time my ability to draw on my memory for legal facts and the compilation of legal forms proved most valuable.

"For example, when the great fire laid such a large part of Chicago in ruins, the offices containing most of the legal forms



HONORABLE ELBERT H. GARY
Chairman of the U. S. Steel Corporation

used in court were destroyed, and lawyers turned to me to draw up their papers because I carried in my head the exact phraseology of practically all the regular forms. Indeed, this business helped to give me a good start when I opened my own office.

"By and by I not only became a busy practitioner of the law but was steadily adding to my resources. Bit by bit I acquired some 2,500 acres of farming land. I also increased my property holdings in Wheaton, my native township, until by the time I was in my early thirties I was the largest property-owner there."

As Judge Gary's earnings and investments increased, however, it was inevitable that his mind should turn more and more to business matters. His counsel began to be sought by corporations. Financiers quickly discovered that he not only knew law but knew business. His acumen as a financier drew influential corporate and capitalistic clients to him. From advising others how to conduct their affairs, it was an easy and logical step for Mr. Gary, now resigned from the bench, to undertake the formation and direction of an enterprise of his own. His first venture in this direction, as already told, was the formation of a steel company.

That proved the stepping-stone to the chairmanship of the largest industrial organization in the history of the world, the United States Steel Corporation.

The magnitude of Judge Gary's position almost passes comprehension. The Steel Corporation's gross earnings last year approximated \$1,500,000,000, and in the two previous years were even larger. It contributed to the government \$1,000,000 every week in taxes last year and an average of \$5,000,000 every week in 1918 and 1917. Its properties are now valued at fully \$2,500,000,000. Its surplus is over \$600,000,000.

Judge Gary is head of a larger army of employers than the peace-time army of the United States. Notwithstanding the slackening of business last year as compared with the two previous years, its employees exceeded 250,000. The average daily wage paid was \$6.17. The total wage bill was the largest on record, \$480,000,000.

No man ever before held so responsible a job. The gross earnings of the company Judge Gary heads are greater than the income of the United States government was in any year before the war. Its financial operations, indeed, are on a scale exceeding those of all but a few countries of the world.

Judge Gary would be the first to acknowledge that he could never have piloted so tremendous a leviathan of industry had he not been fortunate enough to find capable aides. From James A. Farrell, president, all through the ranks of executives, the Steel Corporation is noted for the ability of its men. Said the Judge on this point:

"Yes, the fact that a man has managed his own affairs in such a way that he has accumulated a balance on the right side of his ledger weighs in his favor when I am considering the question of promotion. Waste has ruined many an enterprise. The man who has learned the value of economy, who has consistently practiced saving, and who has exercised good judgment in using his own funds is more likely to prove the right kind of executive than the man who has had no regard whatever for such matters."

It was with the idea of encouraging his company's employees to become savers and investors that Judge Gary years ago assisted in inaugurating a plan permitting the workers to subscribe for Steel shares on attractive terms—a plan which has been taken advantage of by upwards of 50,000 wage-earners.

I would like to add that there are available to-day more attractive bargains in bonds and investment stocks than there have been at any time since the financial upheaval of 1907. When bonds and notes of companies like the Pennsylvania Railroad can be purchased to yield 7½ per cent. or better, and stocks like the preferred issue of the Steel Corporation can be bought at a figure yielding approximately seven per cent., every individual owning investable capital should immediately get into touch with a reputable banking or investment house with a view to picking up some of these exceptional bargains. Even Liberty Bonds can be will be repaid by the government. bought at ten to eighteen per cent. under the price at which they

The Betrayal of Kolchak

THE inside story of the Allied Siberian fiasco from the time of the organization of the Omsk government to the betrayal and death of Admiral Kolchak is told in the "Saturday Evening Post" of July 31, by his comrade, Vice-Admiral Smirnoff. It is a valuable contribution from the Russian side to the history of a phase of the world-war, that has hitherto been shrouded in deep mystery. Especially interesting is the story of Kolchak's betrayal by the Allied High Command into the hands of the Bolsheviks and the efforts of the Japanese colonel to adhere to his conception of Bushido, and preserve the honor of the Japanese army. Admiral Smirnoff says:—

"Admiral Kolchak was at Nijni-Udinsk. Before the fall of Irkutsk, also upon the instigation of the Russian government, the Allied High Commission gave written instructions to General Janin to secure safe passage eastward for Admiral Kolchak and for the gold reserve—if possible. The admiral hesitated whether he should proceed eastward under the guard of the Czech troops, or should return to the west to meet the remnants of the army which had left their trains and—using the highways—were retreating, with heavy battles, eastward.

"The Czecho-Slovak commander assured the admiral that he and his staff would be dispatched in perfect safety to the Far East under the convoy of Czecho-Slovak troops. The admiral was requested to leave his train and, accompanied by the members of his staff, to take a coach that was switched to the train of the Sixth Czecho-Slovak Regiment, which was considered to be the most reliable.

"Thereupon Admiral Kolchak and forty-eight other members of his suite—among whom was Victor N. Pepeliaev, the president of the cabinet—took the indicated 'sure' way. On the windows of the train were posted the flags of the Allied Powers—American, British, French, Japanese and Czecho-Slovak—which meant that the admiral was under the protection of all these Powers.

"On January fifteenth the train reached Irkutsk, where it was surrounded by armed workmen. A Czecho-Slovak officer entered the admiral's coach and announced that in accordance with the orders of General Janin the Czecho-Slovak guard was to be withdrawn. The admiral listened to this decision quite calmly, only remarking: 'This means that the Allies have betrayed me.'

"After the disappearance of the Czecho-Slovak convoy the admiral and the people accompanying him were taken to the Irkutsk prison. Colonel Fukuda, the Japanese military representative, who was at the Irkutsk depot, sent an officer to the Czech general, Syrový—General Janin was at that time in Verkhni-Udinsk—with the proposal that the admiral be transferred to the Japanese battalion.

"General Syrový in his answer states that the admiral had already been handed over to the insurgents. Colonel Fukuda sent an officer to the socialist-revolutionary government with the same proposal, and met with a refusal.

"On February seventh, at five o'clock in the morning, Admiral Kolchak and Mr. Pepeliaev were taken from their cells to the courtyard of the prison and were shot.

"At about this time the remnants of the Siberian Army, under General Voitsekhovsky, were nearing Irkutsk on the highways, and the communists explained the murder by stating that they feared the admiral might be rescued. The Czecho-Slovaks explained their betrayal of the admiral by the fact that they might have incurred possible losses in men if they had defended him, because the insurgents were armed.

"This appears to be rather a peculiar explanation, for if the Czechs did not desire to fight they could have accepted Colonel Fukuda's proposition."

Little by little the truth is leaking through the wall of allied censorship erected to keep the facts from an inquisitive public. The above incident needs no comment. Judging from the mass of propaganda that has come out of Siberia, it is natural to suppose that the manly attitude of the Japanese colonel was resented by those responsible for Kolchak's betrayal and death. The incident tells us that before accepting as gospel truth yarns about Japan's treachery in Siberia, it will be wise to suspend judgement until all sides of the case are established by first-hand evidence, such as the above official record of Vice-Admiral Smirnoff.

The Far Eastern Review

A Monthly Review of Far Eastern Trade, Finance and Engineering, Dedicated to the Industrial Development and Advancement of Trade in Far Eastern Countries

ENGINEERING FINANCE COMMERCE

5 JINKEE ROAD, SHANGHAI, CHINA

Telegraphic Address: Farview, Shanghai

SHANGHAI, OCTOBER, 1920.

"Stabbing American Business in the Back"

THE FAR EASTERN REVIEW has advocated the cessation of all agitation and propaganda designed to maintain China in a state of political ferment and excite animosities between America and Japan. We have pointed out that these conditions are ruinous to profitable business and will make the task of reorganizing China more difficult through the inability of the bankers to sell Chinese securities to the private investor. It is with great satisfaction that we publish an extract from the annual report of Consul-General Ransford S. Miller on the trade of Korea. Mr. Miller is one of the most conservative, experienced and valuable members of our diplomatic corps. Between the lines of his report is disclosed a warning to the agitators whose activities are undermining confidence in China's and Korea's commercial stability. Mr. Miller says:—

"The conditions under which resident American merchants are compelled to do business in Korea at present may be illustrated by the following concrete case:

"In December last one of the most enterprising American merchants here, for many years engaged in business in Korea, made a special trip to the United States to place personally orders for automobiles, motor cycles, hardware, etc., and to arrange the necessary credit. In view of the fact that the duty on this class of articles will presumably be increased from 8 to 50 per cent. at the end of August, he desired to order at least 50 automobiles, and arranged for a credit with a New York guaranty company for \$50,000 at 90 days' sight, against which the merchant made a deposit of \$12,000.

"He was assured of 25 cars for early shipment and returned home in March highly gratified, to be met by a cable that the first five cars had been shipped from New York only in February, and by a letter from the guaranty company stating that his credit had been revoked by them on the ground that the political situation in Korea had become perturbing and would not warrant the extension of credit until more favorable conditions existed.

"It is obvious that if conditions became actually unfavorable the merchant concerned would be the first to take steps to hold up the shipment of orders. It is also obvious that unless American merchants of good standing can obtain reasonable accommodation in the matter of supplies and credit, the business will go to their competitors."

If our banks and guaranty companies refuse to extend credit to an American firm in Korea because of the perturbed political situation, how much more justified would they be in suspending credit in many parts of China? A real political upheaval in Korea is as probable as another revolution in the Philippines. There is as much justification for withholding credit from American firms in the Philippines, because of the annual recrudescence of the independence movement, as there is in Korea. There will be no outbreak. A revolution in Korea or the Philippines would last as long as a snowball in Guam, or a bottle of rye in a Tammany powwow. The case is different in China. Continued propaganda against Japan may in time shut off much needed credits to American firms operating in perturbed provinces.

Which Way, China?

THE Chinese are not, but they ought to be free and independent. There is in America, Japan and the British Empire a favorable public opinion which, if combined, could assist the Chinese to become free and independent.

There are in China dangerous groups of foreigners who would hate to see China free and independent. It is a provable fact that individual leaders or manipulators of these groups are personally interested in promoting discord between America, Japan and the British Empire; and it is a notorious fact that some foreigners in China feed and fatten upon the weakness of China. How many of those who are railing against the Japanese, inciting the Chinese to beat the dead horse of Kiaochau, would put out a hand or a finger to assist the Chinese to regain their lost sovereignty over Shanghai? When it comes to the showdown, how much friendship for China, how much willingness to assist the Chinese, lurks back of this organized campaign to disrupt the force of American, Japanese and British public opinion that could be combined to give the Chinese a square deal?

The plight of China is pitiful, indeed! Yet THE FAR EASTERN REVIEW is unwilling to concede that China's case is hopeless. Such an admission implies belief that, politically speaking, China has amassed the maximum rottenness ever developed in the history of nations. There being one Chinese for every three non-Chinese people in the world, it is not possible to classify the Chinese as a weak nation without indicting some governing Chinese trait. Hard facts demonstrate to the world that China is a very weak nation, badly in need of some stimulus. China's own sons are advertising her as THE BAWLING BABY OF EARTH. She won't be happy until she gets Kiaochau, and there is neither an individual nor a political group in China who could tell the world what China would do with Kiaochau if she should get it back, to-morrow.

China should reign over Kiaochau. THE FAR EASTERN REVIEW desires to see dawn the day when China may join Japan as an Asiatic nation mistress over her own soil AND EVERY INCH OF IT. If we have no respect but, instead, an unstinted contempt for the present misgovernment of China, we cherish a sincere respect for Chinese rights and an unfeigned regard for the Chinese people. Before the last word is said, the Chinese of their own accord will learn to distinguish between their friends and their foes. That they are learning rapidly is proved by the steadily growing number of wide-awake Chinese who are manifesting their approval of the policy of THE FAR EASTERN REVIEW. We appreciate this Chinese support, in China's interest more than in our own interest. To help China win her fight against THE FALSE FACES is a campaign worth while. It is an American campaign. It is a British campaign. It is a Japanese campaign. It is a Chinese campaign. IT IS A CAMPAIGN BASED UPON PRINCIPLE AND NOT UPON PERSONS.

China should be self-governing. Nobody but the Chinese can give China self-government. When we say that we merely adapt to China a truth taught by President Wilson when he was teaching political science at Princeton. Self-government is a thing that must be bought and paid for in the market of human experience. It is a thing that may be lost by bad leadership.

American self-government was derived from British self-government. It is pardonable in Americans to think (as most of us do) that we have improved upon the model. Mr. Herbert Spencer was good enough to admit that, theoretically at least, our system is an improvement upon the British model. Nevertheless, the best American authorities respect that British model and seek points of agreement rather than points of disagreement with our British cousins. It is a provable, interesting and important fact that many of England's best friends in America are of southern Irish stock. It is a tribute to the pure gold of British self-government, and possibly to that spirit of fair play which really governs unhyphenated American character. It offers a timely lesson to the people of China.

There are a hundred Chinese in China for one Irishman in Ireland. If the Irish were Chinese and the Chinese Irish, there would not be another whisper of an Irish or a Chinese question. If the Irish were Chinese, Mr. Lloyd George would have more

time to devote to the Russian question. If the Chinese were Irish, **THE ASIATIC WOULD BE MASTER IN HIS OWN HOUSE.** The trouble with the Irish (as with all the members of the English-thinking family) is that **THEY INSIST UPON DOING THEIR OWN GOVERNING.** The trouble with the Chinese is that they are too easily governed. **ANY POWER ON EARTH COULD MAKE A BETTER JOB OF GOVERNING THE CHINESE THAN THE CHINESE HAVE MADE OF IT, IN ANY MOMENT OF MODERN HISTORY.**

Among the Irish, separation from England has become an obsession. It is, we hope, a temporary delusion, nursed by bad Irish leadership and regrettable, if unconscious British blundering. The really terrible and in every sense lamentable present situation in Ireland is the inevitable consequence of a succession of events since the days of O'Connell. In O'Connell's time and until the Irish Republican Brotherhood prepared the soil for Davitt and Parnell, Ireland might have been won to the Union as readily as Scotland or Wales, *if British statesmen had studied the problem and handled it, as they could have done.* **THE SCOTCH AND THE WELSH ACCEPTED THE UNION ONLY WHEN THEY WERE ACCEPTED AS EQUAL PARTICIPANTS IN A GREAT SELF-GOVERNING EMPIRE.** They had much to forget—traditions as dear to them as Irish traditions are dear to the Irish. They proved their greatness in accepting the logic of stern facts. In time, given the same friendly British treatment, the probability is that the Irish will follow the same good course.

There are anti-British mischief-makers all over the world (and particularly in Asia) who are pulling wires to work up American sympathy for Ireland in the hope that America and England may lock horns on the Irish question. There are anti-American Britons in China who are sitting up nights concocting canards in the hope that America may be induced to go to war with Japan over China. These groups are equally vicious. They are the enemies of Ireland and of China.

China's one hope of saving herself from partition is to borrow a little of the manhood of the Irish, scrap her false pacifist notions and prove her right to self-government. **MERE BULK NEVER WON ANY BATTLE.** China needs to become strong, just as Ireland needs to become sensible. The youth of Ireland seem destined to pay dearly for intemperate leadership. China will as surely pay dearly for her folly, if she continues constituting herself a bone of contention between Japan, England and America. Prudence dictates a wiser, more manly course. She can, if she will, look forward to a bright, respectable future. She needs the help of the three great powers who can assure her the time and opportunity she requires to annex backbone and political organization. Her case requires complete unity of purpose on the part of these three friendly powers. **SHE CAN ANTAGONIZE ONE OF THEM ONLY AT HER OWN PERIL.**

China is, indeed, at the crossroads of her modern progress. *She must pick her path.* She has the choice of two possible roads. The one leads to certain ruin. It is the same demagogic *boreen* into which O'Connell "blarneyed" the Irish people. The other road may be less attractive to the "bosses" but it spells peace, prosperity and contentment to the Chinese masses. **IT IS THE WAY OF ASIATIC FRATERNITY,** the only safe road to Chinese self-government; but China must choose for herself.

Which way, China?

* * *

The Commercial Awakening of Korea

IN the last issue of *THE FAR EASTERN REVIEW* we referred to the increased interest of the Koreans in foreign trade. This tendency has been noted for Mr. Ransford S. Miller, American Consul-General at Seoul, who under date of March 13, reports on the commercial awakening of the Koreans as follows: "Coincident with, and no doubt partly as a result of, the independence agitation Koreans have been aroused as never before to a realization of their ability to shift for themselves, and this new spirit is manifest again and again in lines of business activity. That the Koreans are now willing to invest their money in business ventures is shown by the fact that during the last six

months of 1919 permission was given for the organization of 43 companies owned and controlled entirely by Koreans. These companies represent a capital of \$8,172,908. Permission was also given during the same period for the organization of 36 companies of joint Korean and Japanese ownership, and representing a total capital of \$6,547,798.

"Where the Korean is getting his money, and why he is investing it in business, may be of interest. Rice, which has always been the principal crop and the cultivation of which is the occupation of about 80 per cent. of the population, now sells for six times as much as it sold for five years ago, one *koku* (4.96 bushels) of rice, which sold in 1914 for \$2.50, is now selling for \$15. The price of good rice land has also increased to four times what it was worth in 1914. Thus, by the increase in value of both the rice and the land, a Korean who owns rice lands is far richer than he used to be. On the other hand, whereas he used to put the money which he made from the sale of his rice into buying more land, he now finds that he can only make 7½ per cent. off of his rice while he can make 10 per cent. by investing his money in some stock company; and, believing that the land will probably decrease in price in a few years, he prefers to place his money at this time in some kind of business enterprise."

Not such a black outlook, after all, for "the poor, down-trodden Korean!"

* * *

Minding Our Own Business

AMERICANS have a legitimate right to insist upon equal opportunity in the development of the trade and resources of China, and any attempt by another power to deprive us of these rights should be met by firm opposition in the press and the halls of Congress. But to use such incidents as a pretext for insulting and attacking other nations is as unwise as it is dangerous. When Congress is not denouncing Great Britain for its domination over Ireland, or sympathizing with Egypt, and India, it takes a whack at Japan for being in Korea or questions her policy in China. The rebuke courteous was recently administered when the Speaker of the House of Commons checked a debate that threatened to develop into an attack upon the policy of the United States. Britain has learned to mind her own business, and let other nations work out their own salvation. The United States has enough to do at home to put its own house in order, without attempting to meddle in the private affairs of transatlantic or transpacific nations, or question the honesty of their policies regarding other countries. As long as we hold the Philippines against their legitimate demand for complete independence, with or without strings, we are debarred from criticising Japan in Korea, Britain in India and Egypt, or France in Africa.

As long as we refuse to be bound by the terms of our treaty of 1880 with China, deny to her people admission into the United States, and continue to ignore the rights of Japanese legally entitled to reside in the country and own land, we are in no position to criticise the international morals of other nations. A tolerant attitude towards the problems of others and a sincere attempt to put into practice what we preach, will go a long way towards a better "world understanding."

* * *

Japan as a Wheat Consumer

IN the August number of *THE FAR EASTERN REVIEW* we invited attention to the experiments being carried out in Japan to substitute wheat for the traditional Oriental rice diet. These experiments would indicate that the wise old statesmen of Japan are looking far ahead into the future against the day when Dai Nippon may once more have to battle for her existence.

The increase of industries in Japan, absorbing nearly a million new children a year, will force the importation of food from abroad. If circumstances should ever arise to compel Japan to fight for existence with a great naval power, the sea-lanes might be closed, and unless another source of food supply became avail-

able, her people might starve to death. Her one hope would be China, but here experience and prudence warns Japan not to bank upon Chinese assistance. Japan's one certainty of preserving life would then be in obtaining her food and supplies from Manchuria and Siberia, along easily defended lines of communications.

But Manchuria and Siberia are not rice-producing countries. They grow wheat, the best wheat in the world, and there is no limit to the supply. Some day these lands will become the granary of Asia, perhaps of the world, and some day, Japan may have to stake her existence as a nation on the ability of her people to exist on a wheat diet. Self-preservation is the first law of nature.

Japan as a wheat consumer has its commercial compensations. It means the opening up of the broad expanses of the Manchurian and Inner Mongolian prairies to cultivation by the steam plow, to harvesting by machinery, to the elaboration of the wheat into flour by the creation of huge modern mills; it means another epoch-making agricultural marvel surpassing in importance the development of the soya-bean industry. It means business for American manufacturers, a new machinery market that otherwise might remain unscratched if left to China or Russia. It means a new source of world food supply, that must be developed to provide for the wants of a rapidly increasing world population. It is a sign of progress.

* * *

Plans for a New Tokyo

THE activities of various government departments for beautifying and improving the Japanese capital has resulted in various plans which apparently require coordination. According to the well-informed *Hochi*, the Improvement Committee has been discussing minor matters before settling on a definite general plan. It urges the early adoption of an approved scheme which can be made public so the people will fully understand what is to be done and the reasons for doing it. In this manner those who stand to suffer loss through condemnation and expropriation of their proportion will not oppose and ruin the scheme. It is, therefore, essential, adds, the *Hochi*, that the area covered by the plan should be defined and the districts allotted to commercial, industrial and residential purposes laid out with proper drainage, water, and transportation facilities.

* * *

Japanese Glass Exports Increasing

IN Japan, window glass is maintaining a high price, due to the regulation of demand and supply, as well as the strong attitude taken by the Asahi Company who supply 90 per cent. of the domestic demand. The Asahi Glass Company has increased its pre-war capital of Y.2,000,000 to Y.12,500,000. It not only fills the whole demand (600,000 cases) for glass in the country, except plate glass for show windows, but exports something like 100,000 cases per year to China, Australia, South America, etc. It is not expected that Belgium, the world-famed glass manufacturing centre, will be able to restore the industry to a normal condition for a year or two, while England and America appear not to have any room for export owing to the number of home orders.

* * *

Far Eastern Co-operation Needed to Develop Bamboo Pulp Industry

THE problem of a future pulp supply is at last receiving serious attention. The British Imperial Institute has been conducting experiments for the purpose of obtaining a satisfactory substitute for wood pulp, and bamboo has given the best results. It has been suggested that consumers in each

country should form organizations on the lines of the British Cotton Growing Association for the purpose of encouraging and developing the production of pulp in various parts of the world. As the Far East is the home of the bamboo, it would seem that here is an excellent opportunity for the various governmental agricultural, industrial and scientific departments to work together to further investigations for this purpose.

Some years ago, a serious attempt was made by Hongkong capitalists to develop the bamboo paper industry in Indo-China. The necessary plant was purchased and erected; but, owing to the many petty taxes and obstructions placed in the way of success by the Indo-Chinese government, the enterprise had to be abandoned. The Philippine Bureau of Science has also conducted many interesting experiments with bamboo for making pulp, but these seem to have been confined to the laboratory, without any attempt to follow them up. The Chinese are displaying a laudable interest in the development of industries, and it would seem that a fund set aside for investigating the possibilities of a bamboo pulp industry would, in the long run, bring rich returns to China. Better still, the various Far Eastern governments (Japan, China, Indo-China, Philippines, Siam, Federated Malay States and Dutch East Indies) might contribute to a fund for engaging the best pulp specialists to carry on these experiments for the common good.

The pulp situation is most serious. England is practically dependent on Norway for supplies. In a single week recently 7,866 tons of mechanical wet pulp were imported into England from Norway, while only 490 tons were obtained from Canada. In the United States, the forests of the Lake districts are about gone; the approaching end of our hardwoods is reflected in the soaring prices of furniture; the pine of the Southern States is good for another ten to fifteen years; and the Pacific Coast will soon be denuded of its timber resources to satisfy the insatiable hunger of the Moloch of the Modern Press. The former sources of supply in New England and the Lake States are hard pressed to meet the constantly increasing demands, and Canada has restricted the exportation of pulp, driving the price of paper to unprecedented heights. The Western and Pacific Coast States and Alaska may save the situation for America for a brief period of years, but unless new sources of supply are opened, or substitutes found, the future offers no relief to the publisher from higher and higher costs of print paper.

The solution of this problem must be sought and found by Consumers Associations working in conjunction with governments; as the paper manufacturers will never seriously attempt to find this relief, beyond a supply that will help to sustain prices.

* * *

Japan as the Savior of American Publishers

IF present conditions remain unchanged, it would seem that Japan has a brilliant opportunity to capture a large share of the world's wood pulp trade. The unlimited timber reserves of Hokkaido, Saghalien and Eastern Siberia, coupled with cheap labor and low ocean rates, ought to place her in a commanding position in this trade.

The first shipment of pulp to London was recently made through the Toyo Shokai of Tokyo. Further negotiations for the export of pulp to England and America have been successfully concluded, and about 1,500 tons from the Oji Paper Mill, Karafuto Industrial Company and another concern are to be shipped at a rate of about 13 sen.

In addition to the domestic product, about 3,500 tons imported from abroad last spring and stored in warehouse, will also be shipped as part of the order.

In America, the current market price has been ruling in the neighborhood of from 11 to 12 cents, while production is gradually decreasing owing to the high price of timber, the advance of wages and the insufficient railroad service. Under such circumstances, the exportation of American pulp to Japan is very difficult, because the imports cannot be supplied at a rate below 25 sen,

including freightage, against 11 to 13 sen quoted for the Japanese product. The advantage of prices will favor the export of Japanese pulp to the foreign market.

Here is a fine chance for the publishers of America and England to start a campaign for the lowering of duties and ocean freights, so that the forests of Asia may contribute their share towards relieving the tremendous strain on the rapidly disappearing home sources of supply. We commend this idea to the *New York Times*, the *Saturday Evening Post* and other prominent American publications that are compelled to refuse many pages of profitable advertising because of the decreasing supply and abnormal prices of news print paper. If Japan is not worried, nagged and discouraged in her efforts to develop the resources of Northeastern Asia, the newspaper world may look forward to the creation of a new pulp and paper industry which could materially assist towards reducing prices to pre-war levels, and without inflicting injury to the overburdened home industry.

* * *

A New Pacific Industry—The Goodyear Tire Plant at Los Angeles

WITH its crude rubber supply from its own extensive plantations in Sumatra and its long staple cotton grown on its own lands in the Imperial and Salt River Valleys, the Goodyear Tire & Rubber Company has started its huge new factory at Los Angeles to take care of the Pacific Coast and Oriental export trade.

The factory cost \$20,000,000 and commences operations with about 2,000 employees which will be increased to 9,000 as it gets into full swing, with 7,500 working in the tire plant and 1,500 in the cotton fabric mill. The factory has been erected, equipped and brought to the producing stage in 328 days, or less than eleven months. It has its own aviation field of 320 acres, and a home section of 800 houses to be sold to its employees on easy payments.

The control of its own raw material plantations on both sides of the Pacific, reducing to a minimum the costs of production, together with superior shipping facilities at the port of Los Angeles, must, in the long run, create a trade situation in the Oriental tire market decidedly favorable to the Goodyear concern.

* * *

Money in Sea Leather

THE increasing scarcity of hides for shoes and industrial uses, has turned the attention of manufacturers to the ocean as a source of future supply, and enterprises for the capture of sharks have been established along the Atlantic coast from North Carolina to Florida. Interest has also been aroused in the new industry among fishermen on the Pacific Coast, and before long we may look for Japanese activity in this business. Tanning methods have been discovered that overcome all the old objections to the use of these hides and to-day several plants employing this treatment are making leathers of fine quality, first-class finish, and of grades which suit them for the widest sorts of adaptation. Shoes can be made of porpoise or shark leather which will meet every service requirement and have, withal, the same appearance as footwear manufactured from the leathers of land animals. Not only that, but because of the abundance of raw materials which the sea yields, it is commercially practicable to work these leathers into boots and shoes and to sell them for \$4 a pair, reaping a handsome profit at the same time.

Besides the skins of the shark and porpoise, it is feasible to utilize those of the ray, the swordfish, the beluga, the dogfish, the whale, the manatee, as well as the body covering of a large number of other creatures of the deep. Not only are the hides susceptible of tanning, but the stomachs of the shark and the whale can be transformed into leathers fit for many purposes, while the intestines of some of these aquatic animals produce "catgut" of superior kinds.

World Disaster from Wireless Waves?

FRENCH scientists predict that the use of wireless may some day result in a world disaster of such proportions that life itself may be extinguished. They say that the use of wireless telegraphy has made the air a dangerous place to fly around in, and that the millions of volts of uncontrolled electricity floating aimlessly through the ether is the cause of many explosions that have until now remained deep mysteries.

Among the disasters directly attributed to wireless waves, is the explosion of the dirigible which fell flaming into the heart of Chicago's business section early this year, explosions which sunk ships at Toulon, a mine explosion at Cardiff two years ago, and fires on several vessels that have burned in mid-ocean without any discernable cause.

Wireless waves sent out by the great stations such as the Eiffel Tower, and the Marconi institutions on Long Island, at London, Hawaii, Rome and Peking, race through the air at a speed of 30,000 kilometers an hour, and anything that is a conductor getting in the way of these waves automatically becomes a menace, asserts an expert writing in the *Petit Parisien*. Metal touching metal may set off sparks causing a conflagration. It has been proved, these experts say, that sometimes the iron hoops around cotton bales become detached and touch other hoops, which in an atmosphere charged with electricity, would cause a fire.

The effect on plant life, we are told, is to hasten or to retard growth. When the vibrations are of feeble intensity, plant life is accelerated; but, when they are strong, growth is retarded. It is believed that this may be the reason for abnormal crop failures since wireless came into wide use. The expert closes his warning by declaring that man is toying with a force, the extent of which is only just beginning to be understood, and he prophesies a world disaster of great magnitude unless the danger be studied and means found to avert it.

* * *

That Labor Question Again

LAST month we commented upon the protest of the Japanese seamen's organization against the employment of lower paid Chinese who were displacing them on the ships sailing out of Kobe. This month the cry goes out against Koreans, in Osaka, where over 3,000 "hermits" are now employed.

An official of the Bureau of Social Service of Osaka says that Koreans work 20 or 30 per cent. cheaper than Japanese and work hard, and so factories which have received a serious blow because of the financial depression vie with one another to employ Koreans instead of Japanese.

The official attributes the anti-Korean agitation to the insanitary living conditions of Koreans, who, it is alleged, live in unclean dormitories or spend their nights rolling on the grass in the reclaimed ground near the river harbor. Their living expenses are comparatively low and they will usually work for any wages offered.

With the large number of unemployed in Japan at this time, the agitation against the employment of Chinese and Koreans will undoubtedly increase.

Franco-Siamese Negotiations

Paris, September 15.

The newspapers state that the Foreign Office at present is negotiating with the Siamese Plenipotentiary with regard to a treaty of considerable economic importance, including the fixing of the frontiers of Siam and Laos, the conclusion of commercial agreements, and finally the determination of conditions for the construction of a railway linking up Saigon with Bangkok and consequently with India. A definite result is imminent.—*Reuter*.



The New Chinese General Post Office at Tsinanfu, Shantung

Progress of the Chinese Postal Service

Mr. H. PICARD-DESTELAN, co-Director-General of the Chinese Postal Service,
in his Report for the Year 1919 Tells a Story of Good
Work Done Under Disturbed Chinese Conditions

THIS brochure presentation of the situation in China during 1919 introduces the very interesting annual report of Mr. H. Picard-Destelan, co-director of the Chinese Postal Service. He says: "Although the formal state of civil war is at an end and, throughout the working year, there has been peace of a kind because *pourparlers* have been carried on in the hope of complete accord, the labors of the men of goodwill have not yet been able to extract the semblance of a settled order. Certain provinces which are dependent for their prosperity, and even for their sustenance, on the kindly fruits of the earth have suffered from disastrous floods or equally disastrous drought; in nearly all, banditry has had a good year."

"Articles of mail matter posted in 1919 totalled 340 millions, an advance of 37½ millions on last year's figures. In only one of the Post Office's many spheres of activity are there signs of any contraction of business, and in this case—that of insured letters—the successful competitors are members of the Post Office household. The celerity, certainty, and security of the ordinary domestic letter and parcel mails seem to have won the public confidence to such an extent that insurance is now less frequently demanded, while the increase in the number of registers and the cheapness of the money order fees account for the decrease in the number of those insured letters which formerly used to enclose bank-notes.

"Ameliorations enterprised and taken in hand during the year have been directed towards securing greater frequency, promptness, and accuracy in the delivery of mails, and towards enlarging the areas of distribution and collection of mail matter. For the latter purpose, rural delivery and collection circuits have been inaugurated or extended, with results that are welcome to the outlying villages served and to the Administration. In many

respects, rural delivery is the most momentous and significant of all recent public efforts to promote the general welfare.

"Another improvement deserving of mention has been the adoption of the system of steamer subsidies. As might be expected of a great institution which originated on a very small scale and developed rapidly upon the same general lines, its operations in course of time became barnacled with many sacred but unpractical precedents and methods. Especially has this been the case in its arrangements for steamer-carried mails. During the past year new and direct contractual relations have been entered into with the various lines of steamers carrying coastwise and riverine mails, so that the amounts paid for transport are in proportion to the weights of mails carried.

"The *min-chü*, or commercial letter companies, are still very active in some districts and show a wonderful tenacity of life. It must be only a matter of time, however, before institutions conducted on the principle of competition for private gain go down before that which is wroad-based on the principle of co-operation for the national welfare.

"Of far-reaching benefit to the Service and the staff has been the introduction of the Guarantee and Provident Fund to which the Ministry has lent its *imprimatur*. Its object is the gradual introduction of self-responsibility by personal cash security augmented annually by a proportional contribution from the working profits of the Administration. It will tend to safeguard the Service against possible irregular acts of employés while at the same time making provision for honest servants who, through illness, are unable to work; for others who retire on reaching the age limit; and for the families of those who die in the course of their duties.

"On the whole, the year has been one of great initiatives and notable achievements, and the policy of returning the Postal revenue to the people in the form of extended and improved

services has received its justification. For the time of emergency—of war within and without the country—the Postal Service has been, in general, prepared; for the period of emergence that is now following she is progressively fitting herself by increasing and developing the network of communications which will promote social and commercial intercourse, sympathy, and mutual understanding—internally between all parts of the country, and externally with lands overseas.

Equipment

“Five motor-lorries were added to the fleet during the year: two at Shanghai, two at Hankow, and one at Peking.

“In July the steam-launch *Yüting* was transferred to Hankow from Shanghai, which was supplied with a new one, the *Hungfei*, and a fast shallow-draft motor-boat was added to the Service fleet at Foochow.

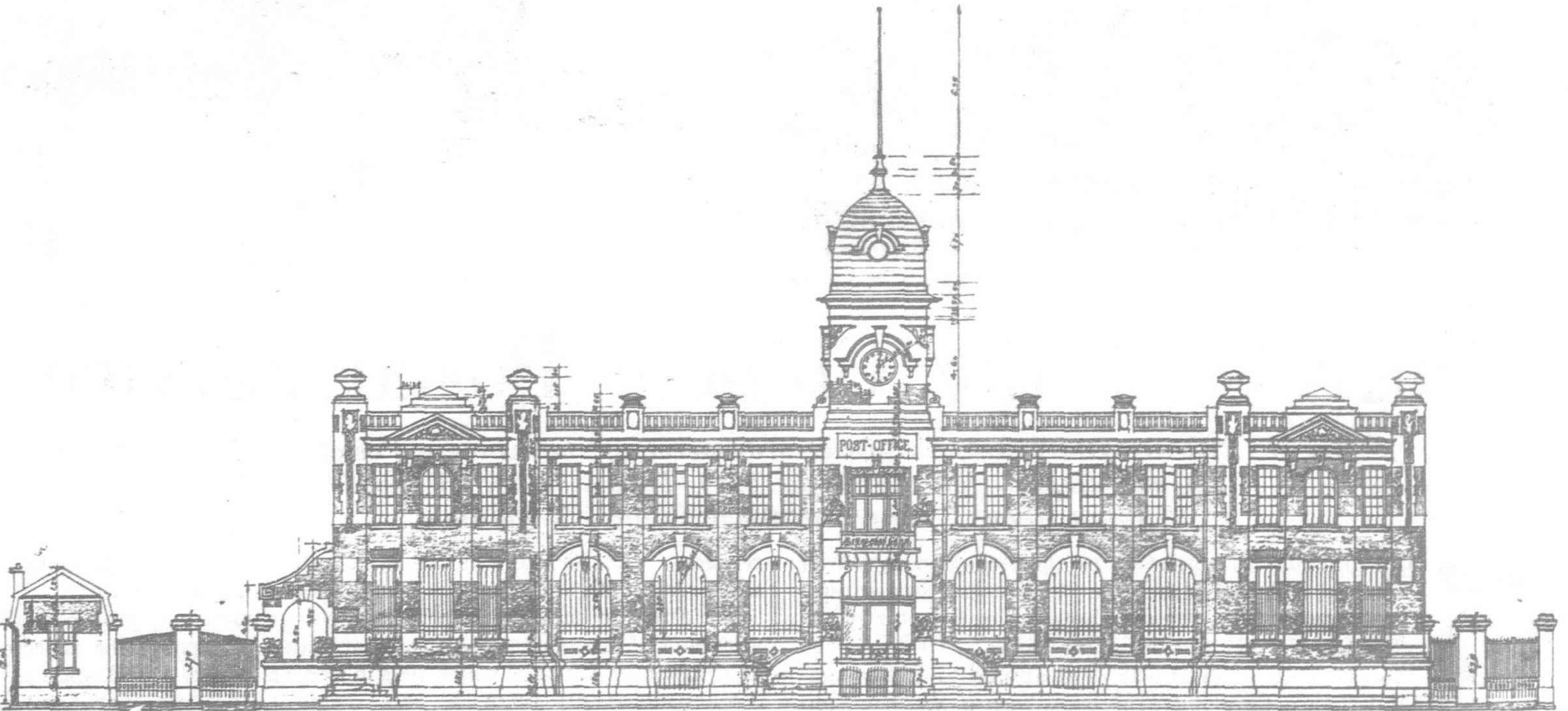
“The manufacture of reinforced-concrete pillar-boxes has made good progress both at the Postal Supply Department, Shanghai, and at Peking. These pillar-boxes are in two styles—models *A* and *B*—adapted respectively to the needs of busy centres and of small places and railway platforms. Safes have been made in large quantities, especially to suit postal requirements, and have been distributed to the larger inland Offices. Establishments

insured letters has again to be recorded, but that is a result not to be greatly deplored. While that category of mail matter shows a tendency to decrease, it is a cause for gratification that the returns from every Postal district, without exception, show increases, in some cases very marked, of all other categories of mail matter posted as compared with 1918. The districts which contributed most conspicuously to these increases were: Shanghai, with 14,000,000 more than last year; and Szechuan and Shantung, each with 4,000,000 more. Of the total increase of articles of all categories posted, letters contributed 23 millions—an increase similar to that of last year; postcards 4 millions, as against 1 million last year; newspapers and printed matter 9 millions; and other articles 1½ millions.

The Town Post System (Articles Posted for Local Delivery)

As in the past, this service continues to be much patronised by the public and shows an increase of some 2 million articles over the number for 1918. The figures for the last four years are given hereunder:—

	1916	1917	1918	1919
Articles posted for local delivery ...	17,197,900	18,148,400	18,949,000	20,928,000



Design of New Postal Building in Course of Construction at Kaifengfu, Honan

all over the country are being progressively supplied with these new safes.

“In connection with the Peking Head Office there is now a shop where mechanical repairs to Postal motor-trucks and cycles are effected, and where the remaking of motor-car radiators and pumpaxles and the cutting of gears have been undertaken successfully.

COMPARATIVE TABLE SHOWING MAIL MATTER POSTED.

Articles	1916	1917	1918	1919
Ordinary ...	230,335,420	256,275,250	277,137,500	311,237,300
Registered ...	16,978,400	18,488,690	21,112,200	24,070,850
Express ...	3,082,544	3,585,320	3,990,550	4,589,170
Insured ...	35,909	32,140	28,778	25,672

Total ... 250,432,273 278,381,400 302,269,028 339,922,992

“The grand total of mail matter posted amounts to approximately 340 millions and shows an increase of 37½ million articles over the figures of 1918, which, in turn, were 24 millions above those of 1917. The improvement is thus appreciable. Of the above increase of 37½ millions, ordinary articles account for 34 millions and show an advance of 12 per cent.; registers for 3 millions, showing an advance of 14 per cent.; and express articles for half a million, an advance of 15 per cent. A decline in the number of

ARTICLES COLLECTED FROM LETTER-BOXES, BOX-OFFICES, AND PILLAR-BOXES.

1916	1917	1918	1919
46,419,400	55,739,000	62,848,500	72,339,400

China's Parcels Post

TABLE SHOWING PARCELS POSTED.

	1916	1917	1918	1919
Number ...	2,232,100	2,640,355	2,738,090	3,551,105
Weight: kilos ...	8,484,200	10,006,321	10,850,034	14,788,916
Value: \$...	29,282,300	34,893,500	40,109,700	54,602,207

“PARCELS.—The Annual Report for 1918 recorded an increase of parcels posted of only 100,000 in number and ¼ of a million kilos in weight over the figures of 1917. It is therefore particularly gratifying to be able to record for the year under review a substantial increase both in number, 813,000, and in weight, 4 million kilos. As in the case of mail matter, Shanghai is the largest contributor to this increase with 1,276,200 kilos; Szechuan follows with an increase of 724,700 kilos. While these two districts stand out prominently, others have contributed their quota, and it is a pleasure to notice the existence of a new factor which has made itself felt in connection with the postal parcel trade this

year; this is the sudden and comparatively large increase of parcels from Kansu and Shensi, indicating an increasing confidence in the Postal Service in these remote provinces. The increase of 724,700 kilos of parcels posted in Szechuan during 1919 is particularly noticeable, since the district showed a decrease of 700 kilos in 1918 as compared with 1917. The improvement cannot be credited to more peaceful conditions, for the nefarious activities of brigands have continued to impede safe transport and hamper trade. The export parcel trade in Manchuria has suffered a severe set-back during the year, there being a deficit of 110,300 kilos on the figures of 1918; this is due in great measure to the cessation of parcels from Russia (through Manchouli) to places in China. The total number of parcels posted throughout the country was 3,551,105, as against 2,738,090 in the previous year; the declared value was \$54,602,207, as against \$40,109,700, an increase of \$14,492,507; and the weight was 14,788,916 kilos, as against 10,850,034 kilos.

Buildings and Land

"BUILDINGS.—Peking.—The enlargement of the Directorate General building referred to in last year's Report was completed. Three sites were purchased in the Nanchihtze, Liulichang, and Kansihchiao sections of Peking City, and the buildings thereon adapted to serve as Sub-Offices. A new building was also purchased and altered to serve as the Director General's residence. The contract for the erection of the new Peking District Head

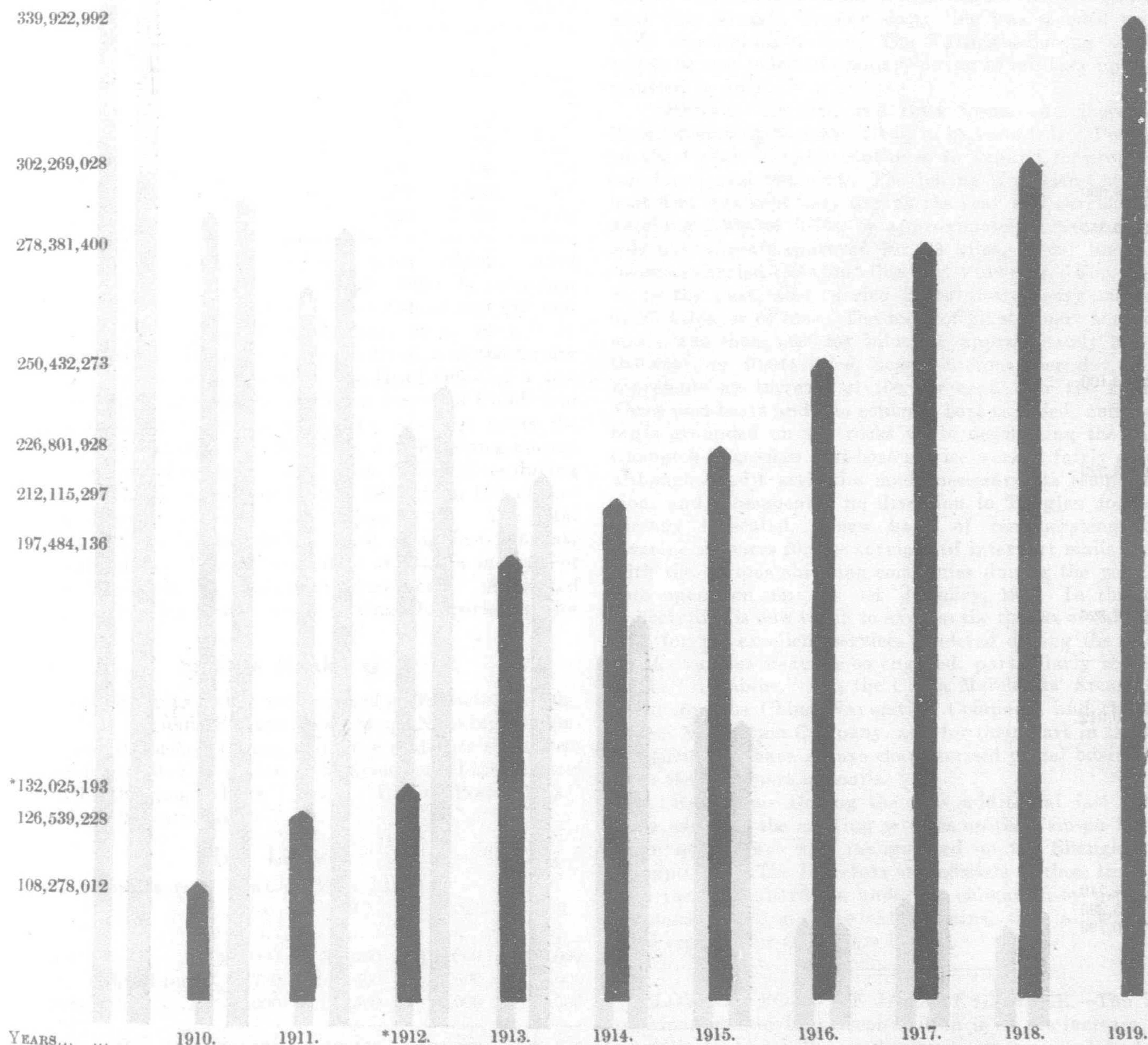
Office in the Hu Pu Chieh was signed late in the year, and foundations were prepared.

"CHIHLI.—The purchase of the commodious premises at Tientsin, built in 1915 by the Maritime Customs and rented to the Post Office, was effected during the year. A modern semi-foreign building standing on 2 *mow* of land on the Tungmalu has also been acquired and, after extensive alterations, now functions as the principal city Sub-Office. It is most conveniently situated in the business section of the city, and consequently does a thriving parcel business. A residence for the Postal Commissioner was purchased in December.

"HONAN.—The site and building rented by the Post Office at the Kikungshan Summer Resort, together with the adjoining plot, have been purchased. The Post Office built only a few years ago at the busy railway junction of Chengchow having been found too small to deal with the increasing postal business, it has been enlarged and reconstructed on lines that make for economy and expedition in the handling of mails. The contract for the erection of a new District Head Office and two staff residences at Kaifeng has been signed, and work will commence in the spring of 1920.

"MANCHURIA.—At Chichienho, on the southern bank of the Amur River, a small plot of land was acquired from the government, and a Post Office has been erected thereon. In order to cope with the growing postal business at Tsienkinchai, a busy

DIAGRAM SHOWING INCREASE IN AMOUNT OF MAIL MATTER POSTED DURING THE YEARS 1910-1919.



*The figures for 1912 cover only 10½ months.

mining centre, a modern Post Office was erected on the site previously purchased. The outbuildings of the new main Office at Harbin have been completed and are temporarily used as a Sub-Office. The construction of the main building is now under consideration.

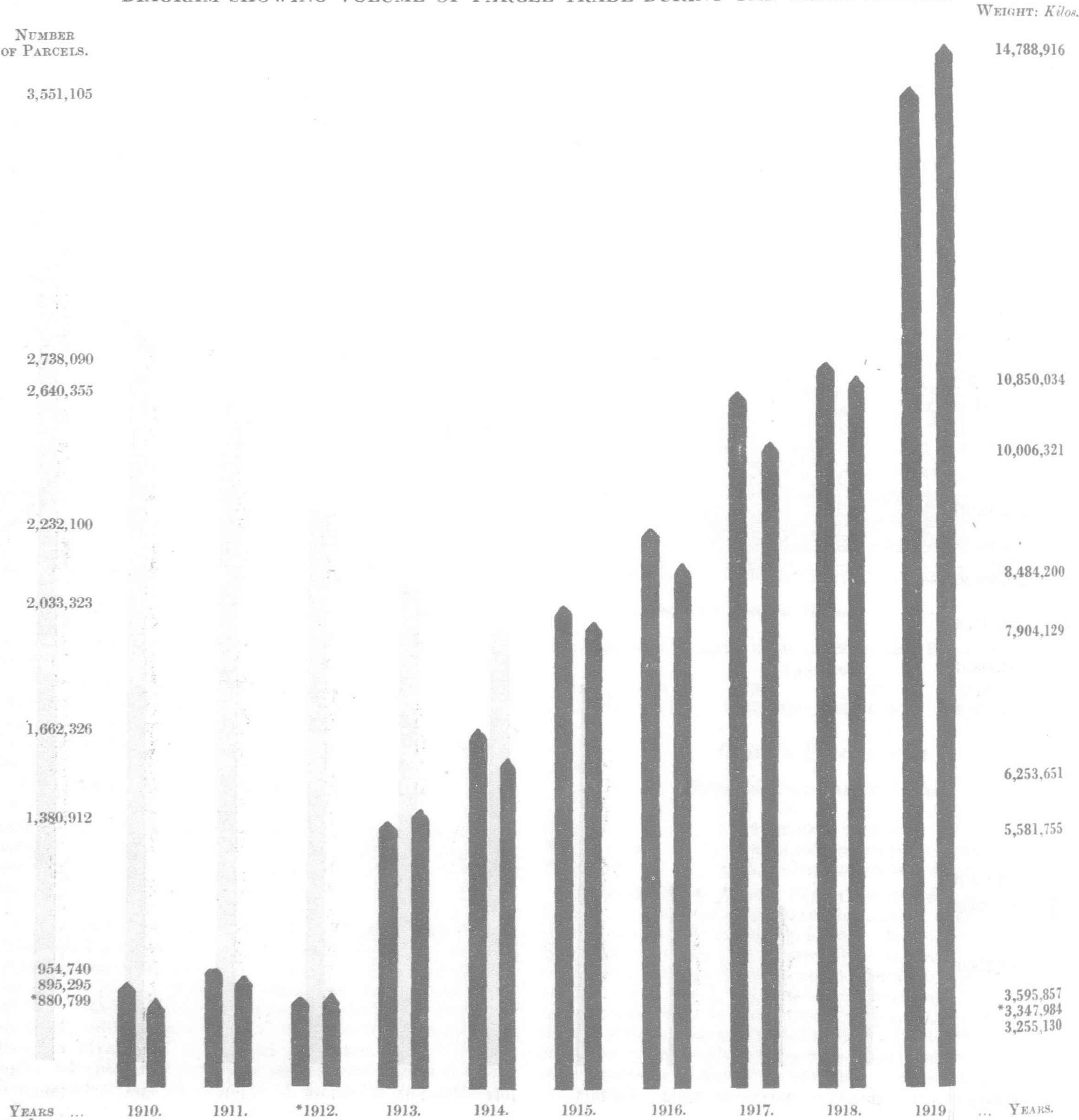
“ SHANTUNG.—The District Head Office and staff residences to which reference was made in the previous Report were duly completed; the former building was officially opened on the 2nd February, 1920. The following brief description of this new District Head Office will be of some interest. The block, which covers an area of 22,000 square feet, is a brick building, with faced ashlar basement, wood floor construction, and red tile roof; the exterior is of red brick-work with stone trimmings. A tower, 90 feet in height, with a dome covered in ceramic tiles, surmounts the main entrance in the centre of the facade. Besides the basement, which is used for storage and heating plant, there are three storeys to the building.

The ground floor accommodates the various mail departments; a large public hall, with counters 150 feet in length and three entrances on the main road, occupies the front portion. Offices for the administration of the district are situated on the first floor, with rooms for the Commissioner, Deputy Commissioner, Accountant, Secretaries, and clerical staff. Further office accommodation and rooms for archives are provided on the second floor within the mansard roof. Outhouses for lower employes, sheds for motor-lorries, repair shops, stables, and basket storage buildings are situated to the rear of the spacious loading yard. At Chefoo a two-storied house with 2½ mow of land was purchased to serve as the Postmaster's residence.

“ SZECHUAN.—The site and modern building formerly rented as the Chungking Post Office, together with an adjoining site and building, were acquired during the year under review.

“ KIANGSU.—The three staff residences at Nanking were completed and occupied early in the year. The District Head Office

DIAGRAM SHOWING VOLUME OF PARCEL TRADE DURING THE YEARS 1910-1919.



is still uncompleted, this being due, as stated in the last Annual Report, to the modification of the plans rendered necessary owing to the acquisition of additional land. It is expected to be ready for occupation before the summer of 1920.

"SHANGHAI.—The premises formerly occupied by the Post Office and used as the Rue Kraetzer Sub-Office were acquired.

"ANHWEI.—The premises rented by the Post Office at Tatung, together with the adjoining premises forming one block, were acquired and are to be renovated and altered to suit postal requirements.

"KWANGSI.—To meet postal needs at Wuchow a site was acquired on the bank of the river. The old building standing thereon is used temporarily as the First Class Office, but the intention is to replace it by a modern and up-to-date building as soon as circumstances permit.

"LAND.—Sites for future Office buildings have been acquired as follows: At Mei-cha Hutung, Peking City, and at Süanhwa in the Peking District; at Tientsin and Chinwangtao in the Chihli District; at Kaifeng and Tsiaotso in the Honan District; at Lanchow in Kansu; at Newchwang and Tsitsihar in Manchuria; at Lungkow in Shantung; at Kiukiang and Kuling in the Kiangsi District; and at Swatow in the Kwangtung District. In the Chekiang District sites were acquired at Ningpo and Wenchow, and leases in perpetuity were arranged with the railway authorities at Hangchow and Kashing. A site for a Commissioner's residence was also purchased at Harbin.

Establishments

"The following comparative table for the last four years shows the growth in the number of major establishments—Post Offices and Agencies:—

	1916.	1917.	1918.	1919.
Head Offices	21	21	21	22
First Class Offices	32	34	36	37
Second Class Offices... ..	990	1,078	1,152	1,286
Third Class Offices	368	338	333	344
Sub-Offices	205	212	221	243
Agencies	7,181	7,420	7,604	7,830
Total	8,797	9,103	9,367	9,762

"The increase of major establishments (395) is somewhat higher than last year; it represents 169 new Offices and 226 new Agencies. An increase in Head Offices from 21 to 22 will be observed; this is due, as shown above, to the division of the former Chihli District into two with Peking as the Head Office of a new Postal District which embraces the northwest corner of Chihli and extends through Mongolia as far as Kobdo, where it meets the Postal District of Sinkiang. The Shaohing and Kweihwa Second Class Offices were raised to the status of First Class Offices during the year, thus—with the removal of Peking Office from this class—increasing the number of First Class Offices to 37. The total number of Second Class Offices stands at 1,286, as against 1,152 last year, an increase of 134; Third Class Offices at 344, an increase of 11; and Sub-Offices 243, as against 221 last year. As stated above, 226 new Agencies were opened during the period under review.

Savings Banks

"On 1st July Savings Banks were opened at Tientsin, Peking, Taiyuan, Kaifeng, Tsinan, Hankow, Nanchang, Nanking, Shanghai, Anking, and Hangchow Offices, and since that date the system has been extended to 70 other places. The names of all these Offices are indicated by the numeral "8" in the "List of Post Offices" in Part II of the "Postal Guide."

Mail Lines

COMPARATIVE TABLE OF MAIL LINES

	1916.	1917.	1918.	1919.
	Li.	Li.	Li.	Li.
Courier Lines	421,000	432,000	449,000	467,000
Steamer and Boat Lines	64,700	68,600	69,800	72,000
Railway Lines	19,000	19,500	20,000	20,000
Total	504,700	520,100	538,800	559,000
	1 mile=3 Li.			

"COURIER LINES.—The total length of courier lines shows an increase of 18,000 *li*, or 6,000 miles, over the figures of 1918. The increase is divided principally between Peking, Kansu, Manchuria, Shantung, Shansi, Szechuan, and Chekiang. A portion of the Peking increase is accounted for by the opening of a new line extending 700 *li* northwards from Kobdo through Wulangcum to Wulianghai on the Mongolian-Russian border and from Kobdo southwards *via* Hakosha to Kuchengtze under Sinkiang. Kansu has contributed by the opening of a 730 *li* new courier line from Sining through Tangar to Tulansze in Kokonor. In Manchuria the gap between Paohingchen and Aigun on the Amur River was bridged by the inauguration of an overland service between these points. From Aigun the line was further extended to Chichienho, a place situated at the extreme northern limit of Chinese territory. These two latter extensions account for the increase of lines in the Manchuria District.

"As regards the lengths of courier lines between major establishments, Szechuan ranks first with 47,843 *li* (15,947 miles), Manchuria second with 46,947 *li* (15,649 miles), Kwangtung third with 33,837 *li* (11,279 miles), and Chihli fourth with 28,542 *li* (9,514 miles). To the total of 467,000 *li* of regular courier lines must be added a very considerable length of subsidiary lines connecting minor establishments and served by rural postmen. To these Honan contributes 18,822 *li*, Shantung 15,715 *li*, and Szechuan 2,530 *li*—a total for these three provinces alone of 37,067 *li*, or 12,355 miles. In most districts the mail lines were accelerated to cope with the increasing amount of mail matter passing over them. The light mail service between Urga and Kobdo was changed from a once-a-week to a tri-daily service, while the Ningsia-Wuyuan daily line was speeded up to a fast daily day-and-night line. The Tatsienlu-Batang service, which had to be suspended in January owing to military operations, was resumed in July.

"STEAMER, LAUNCH, AND BOAT LINES.—An increase of these lines amounting to 2,200 *li* has to be recorded. Post-boat traffic on the Upper Yangtze continues to expand to proportions that call for special comment. The Ichang-Wanhsien-Chungking post-boat fleet was kept busy during the year and carried heavy mails weighing 1,839,505 kilos, or approximately 1,810 tons, while outside native craft conveyed 702,063 kilos, or 691 tons. Contract steamers carried 1,059,369 kilos, *i.e.*, 1,042 tons. Foreign gunboats, as in the past, also carried gratuitously heavy mails weighing 65,267 kilos, or 64 tons. The total of all steamer- and boat-carried mails was thus 3,666,204 kilos, or approximately 3,607 tons for the year, or 10,044 kilos, nearly to tons, per day. This total represents an increase of 106 per cent. over the figure of 1918. Three post-boats and one contract boat capsized, and two contract boats grounded on the rocks while negotiating the rapids. The Changteh-Chenyuan post-boat service worked fairly satisfactorily, although bandit activities made necessary its temporary suspension, and subsequently its diversion to Tungjen for a time. As already indicated, a new basis of remunerating coastal and riverine steamers for the carriage of interport mails was arranged with the various shipping companies during the year, and came into operation on the 1st January, 1919. In this connection, opportunity is now taken to express the thanks of this Administration for the excellent services rendered during the past 20 years by the various steamers so engaged, particularly those belonging to the "Combine," *i.e.*, the China Merchants' Steam Navigation Company, the China Navigation Company, and the Indo-China Steam Navigation Company, and for their part in the harmonious relations that have always characterised postal business connected with the transport of mails.

"RAILWAYS.—During the year additional fast train services were added to the existing services on the Tsin-pu line. A night train service was also inaugurated on the Shanghai-Hangchow-Ningpo line. The Directors and officials of these lines have again laid the Administration under an obligation by providing postal accommodation on these extra trains, thus allowing additional mail services for the public benefit.

LONDON FOND OF JAPANESE BEER.—The importation of Japanese beer into Great Britain is on the increase. An expert predicts that it will soon become a strong rival to home-brewed lager.

Building Schools in the Philippines

By Luther B. Bewley,

Director of Education of the Philippine Islands



A Standard-plan School Building at Valencia, Bohol, with the Old Building in the Back-ground

IN accordance with authority granted by the Council of State as a part of the extension program inaugurated by Act 2782, the Bureau of Education Buildings Division, which lost its identity a few years ago, was reorganized last year. The new division will coöperate with division superintendents in the handling of all

matters pertaining to buildings and sites, especially in connection with the extension program. The authorized personnel of the new division includes a chief, a buildings clerk, draftsmen, surveyors, computers, chainmen, and laborers.

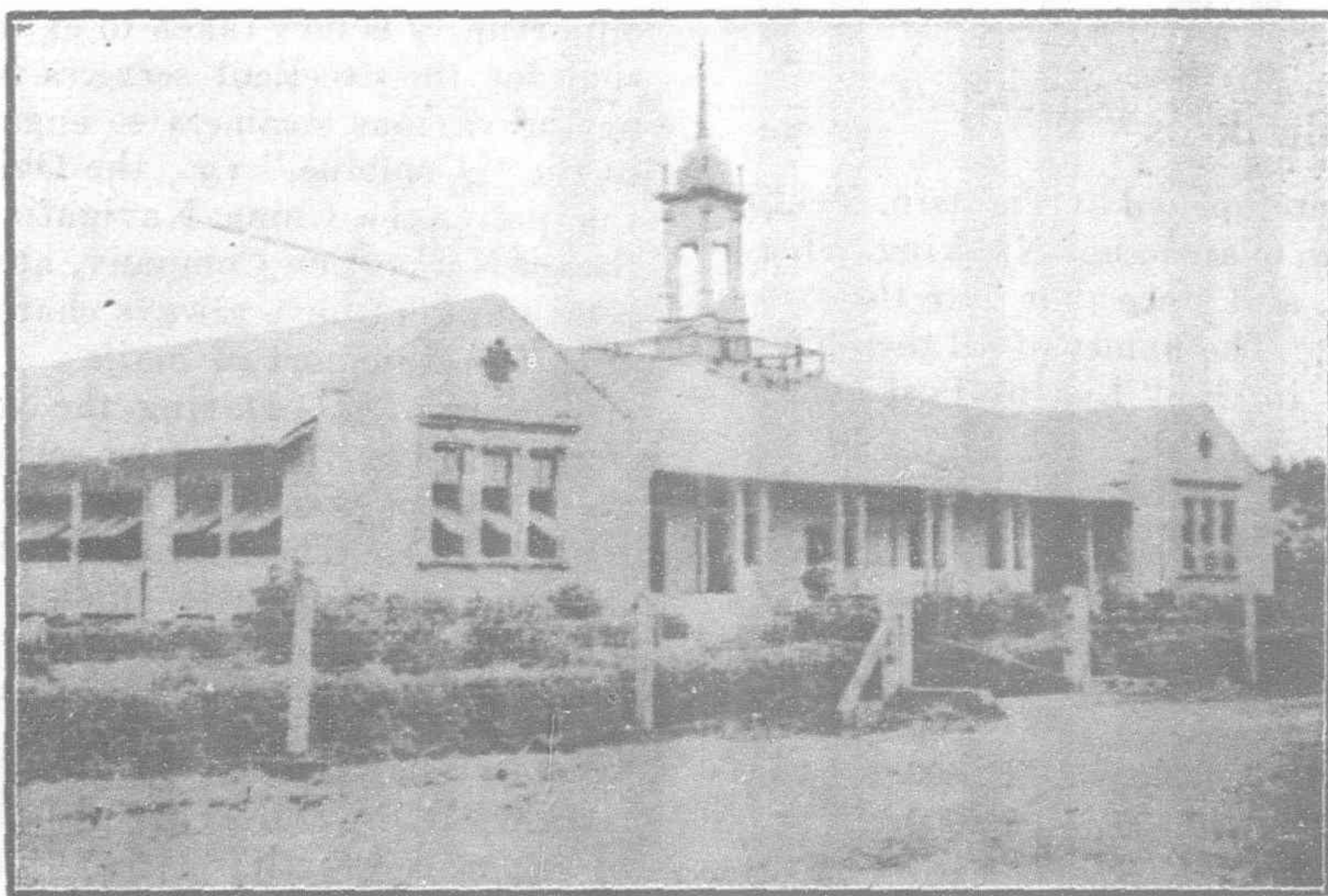
It is planned to effect such changes in the standard plans for new buildings as may be made necessary by present conditions affecting building construction. It is also planned to issue new and additional plans for semi-permanent structures and to issue such other plans as may be required to meet the needs

of the extension program. It is planned further to work in conjunction with other bureaus and branches of the government in order to obtain quick action on all building and site papers so as to expedite the acquisition of sites and the construction of buildings.

The untoward conditions affecting building construction which have existed during the last two years continue to have their effect on our building program. Peace conditions have not brought about the reduction in prices of building materials which was expected. On the other hand, prices of building materials and the cost of labor continue to rise.

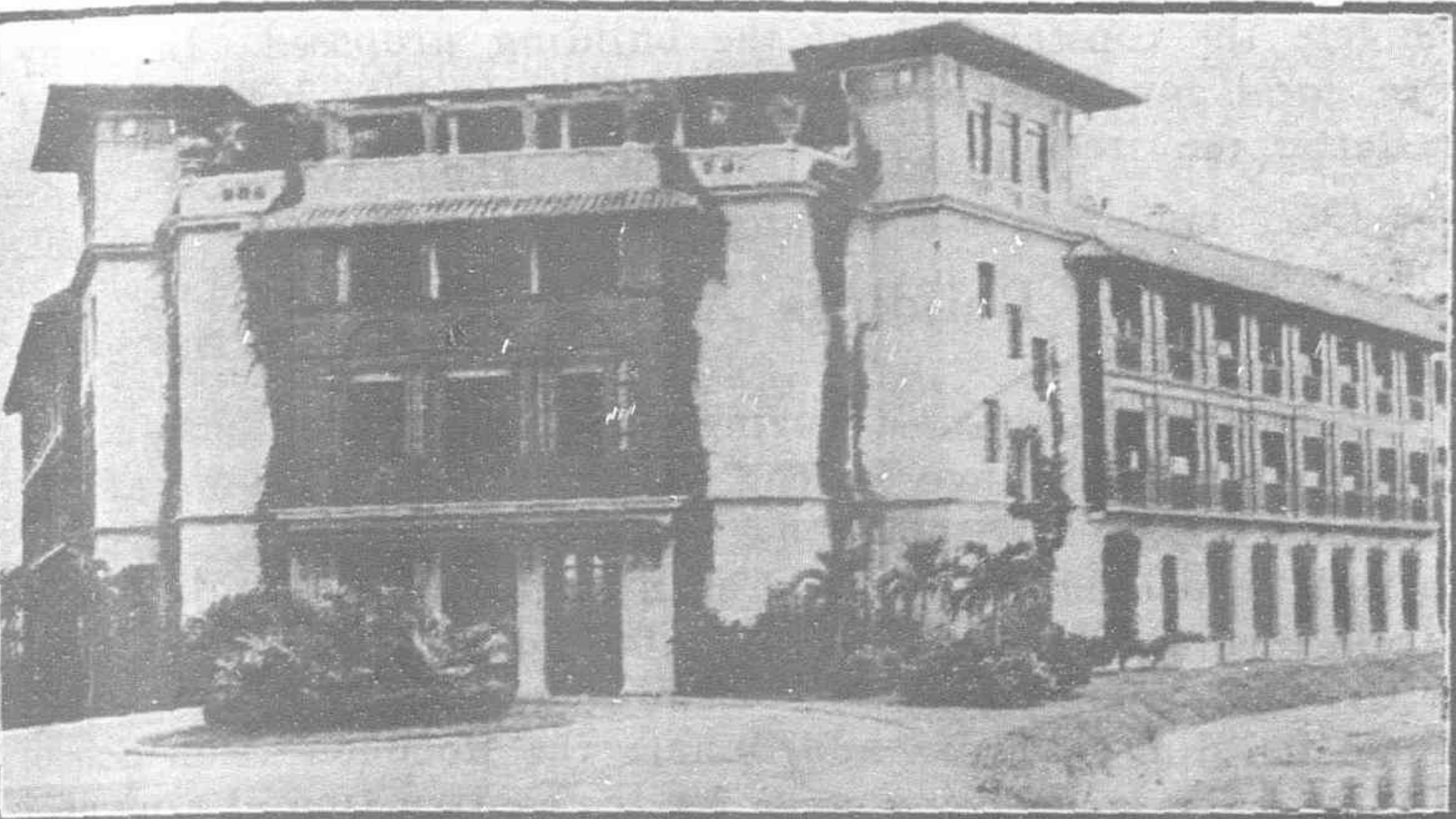
Status of the Building Program

In spite of these difficulties, a larger number of school buildings were completed during 1919 than during any previous year. This record could not have been made if the 1919 appropriation for



Rizal Memorial School Building at Calamba, Laguna

school-building construction had not been larger than ever before and if the funds provided by Act 2782 for the extension of schools had not called for the construction of a large number of buildings. A greater number of temporary and semipermanent buildings were constructed during the year than would have been approved

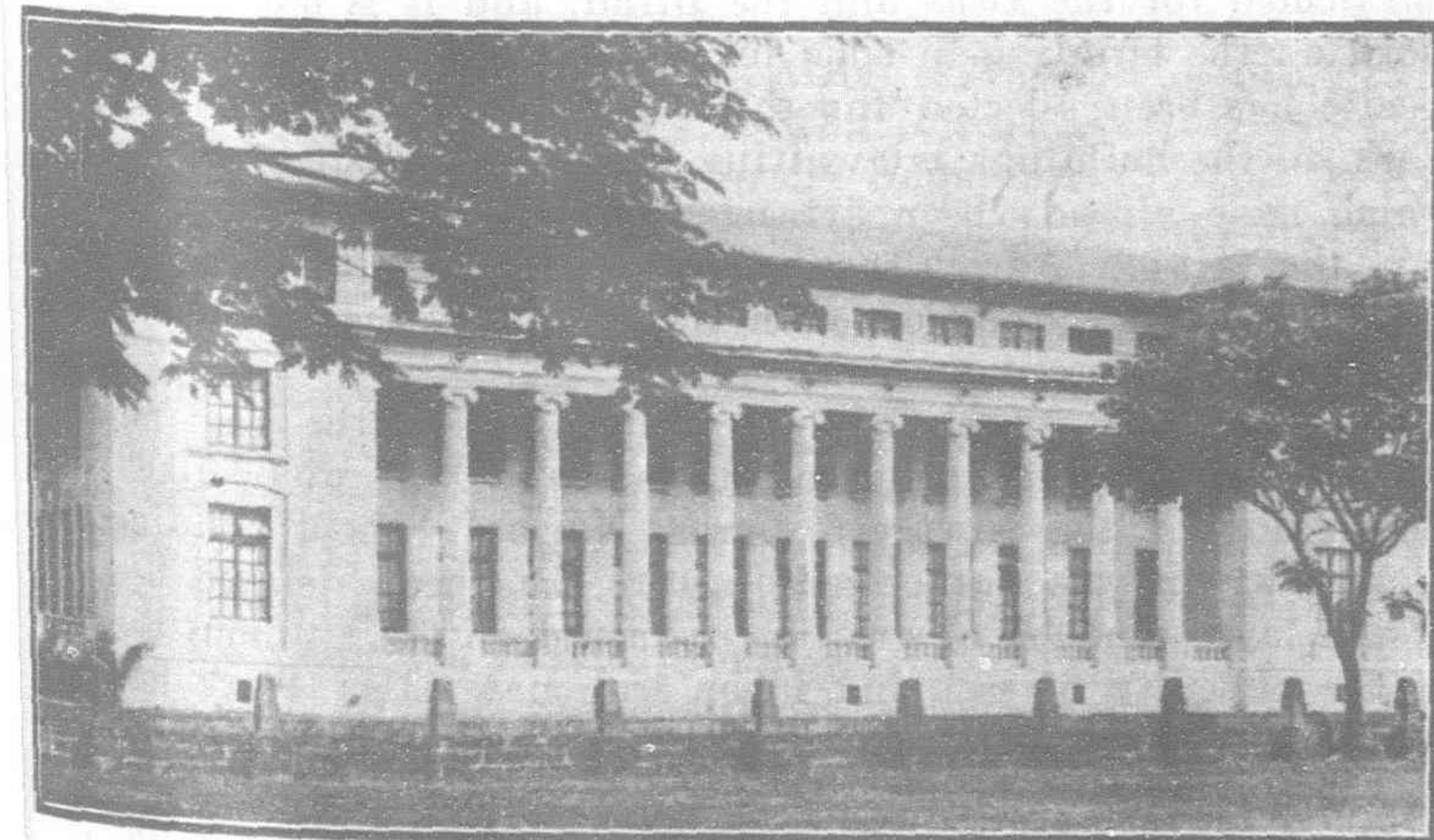


Normal Hall Dormitory for Girls

of under normal conditions, but most of these structures were built to house schools called for in the extension program.

The question of changing the building policy of the Bureau of Education was thoroughly discussed at the 1919 convention of division superintendents in Baguio. The proposition was later discussed with the Consulting Architect and with the Director of Public Works, both of whom were of the opinion that the construction of buildings should not be deferred and that there was no good reason for discontinuing the requirement of concrete buildings as the standard. These officials think that little, if anything, can be gained by using first or second-group timber as a substitute for concrete, because buildings constructed of first and second-group timber cost nearly as much as buildings constructed of concrete and would require a greater annual expenditure for upkeep. This Office accordingly issued instructions to the field in which the building policy was restated in the following terms:

This Office agrees with the Director of Public Works regarding the necessity of continuing the building program. It is also thought that the cost of constructing school buildings of concrete at present prices is not greater than the cost of constructing buildings of first-group seasoned wood. In some localities it may be that the construction of buildings of wood will mean a saving of 25 per cent. or more because of the difference in transportation and for other reasons. In some localities it may be practically impossible to construct a concrete building. In cases where the difference between the cost of concrete and the cost of wooden buildings would be sufficient to pay charges of upkeep and at the same time to offset deterioration for a period of at least ten years, this Office will approve the construction, from local or municipal funds, of buildings of thoroughly seasoned first or second-



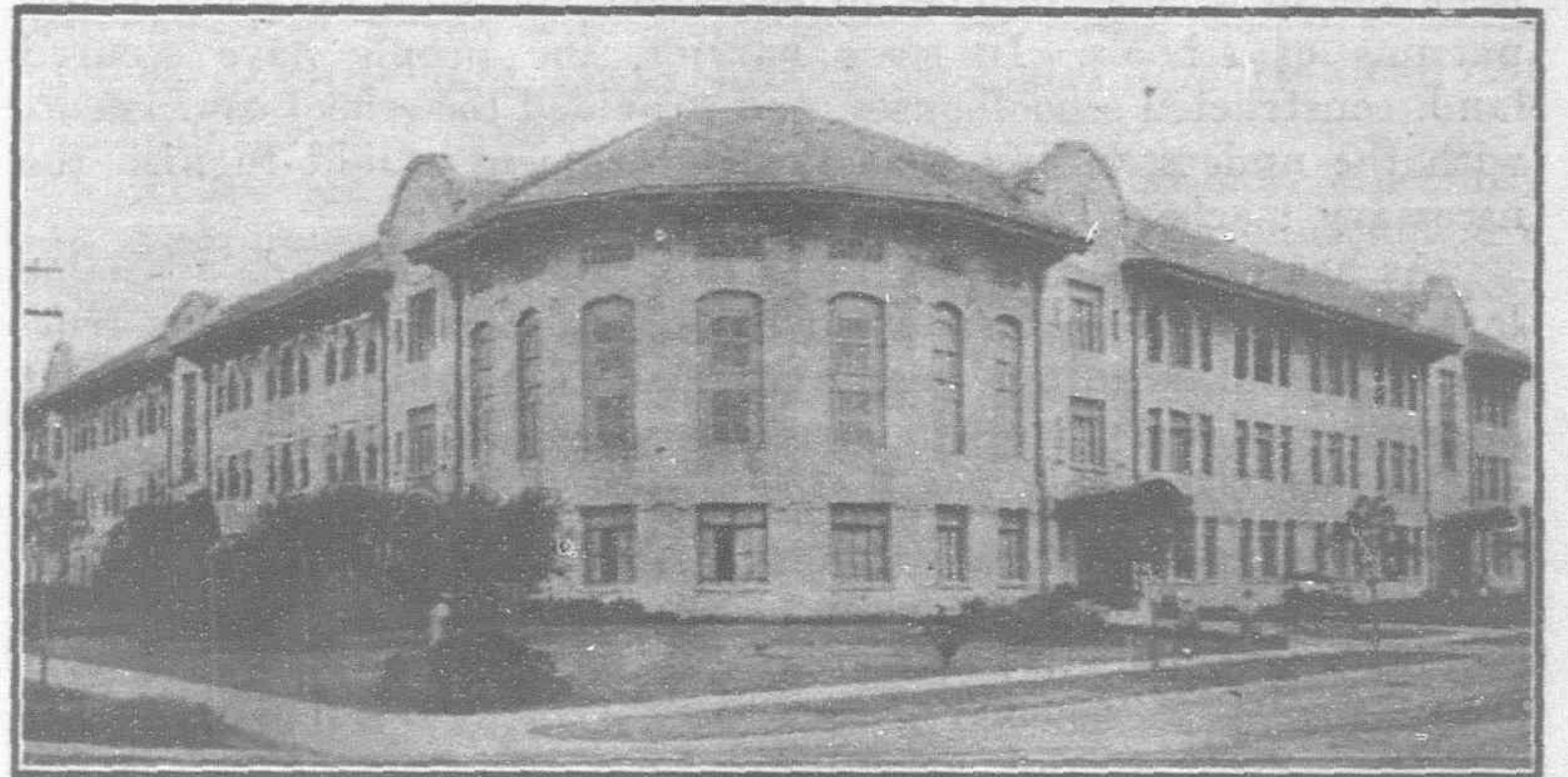
University of the Philippines Administration Building and Lecture Room

group lumber. Insular aid will be allotted only for the construction of concrete buildings erected according to approved plans.

Insular and Provincial Loans

In order to meet the rise in building costs, this Office secured the passage of Act 2791 empowering municipalities and provinces to borrow money for permanent public improvements from the Insular Government, from the Philippine National Bank, and from the Postal Savings Bank. Section 2117 of the Administrative Code which authorizes the loan of municipal deposit funds for school purposes was also taken up and its operation clarified by administrative decisions of the Attorney-General and the Insular Auditor. The Insular Auditor at the instance of this Office authorized the creation in municipal accounts of a special school outlay fund. This fund reestablishes in local accounts the school-building deposit fund which formerly existed in the provincial treasury and which was abolished in 1917. The revival of this fund will simplify the operation of the policy of this Office which requires that 20 per cent. of the revenues of the municipal school fund be set aside each year for the acquisition of land, of permanent buildings, and of equipment, and makes it possible for the superintendent to save funds for building construction.

The passage of Act 2791, referred to above, relieved the building situation to a certain extent only, because many of the municipalities were not in a position financially to contract loans. However, a number of the municipalities which, in their efforts to take advantage of the act, found themselves unable to contract the loans required because of low paying capacity due to low rates of taxation or to low rates of assessed values, have increased the



Philippine Normal School Building, Manila

rates of taxation to the legal maximum or have revised property values. The increase in municipal revenues resulting from this progressive step will stimulate public improvements to a great extent.

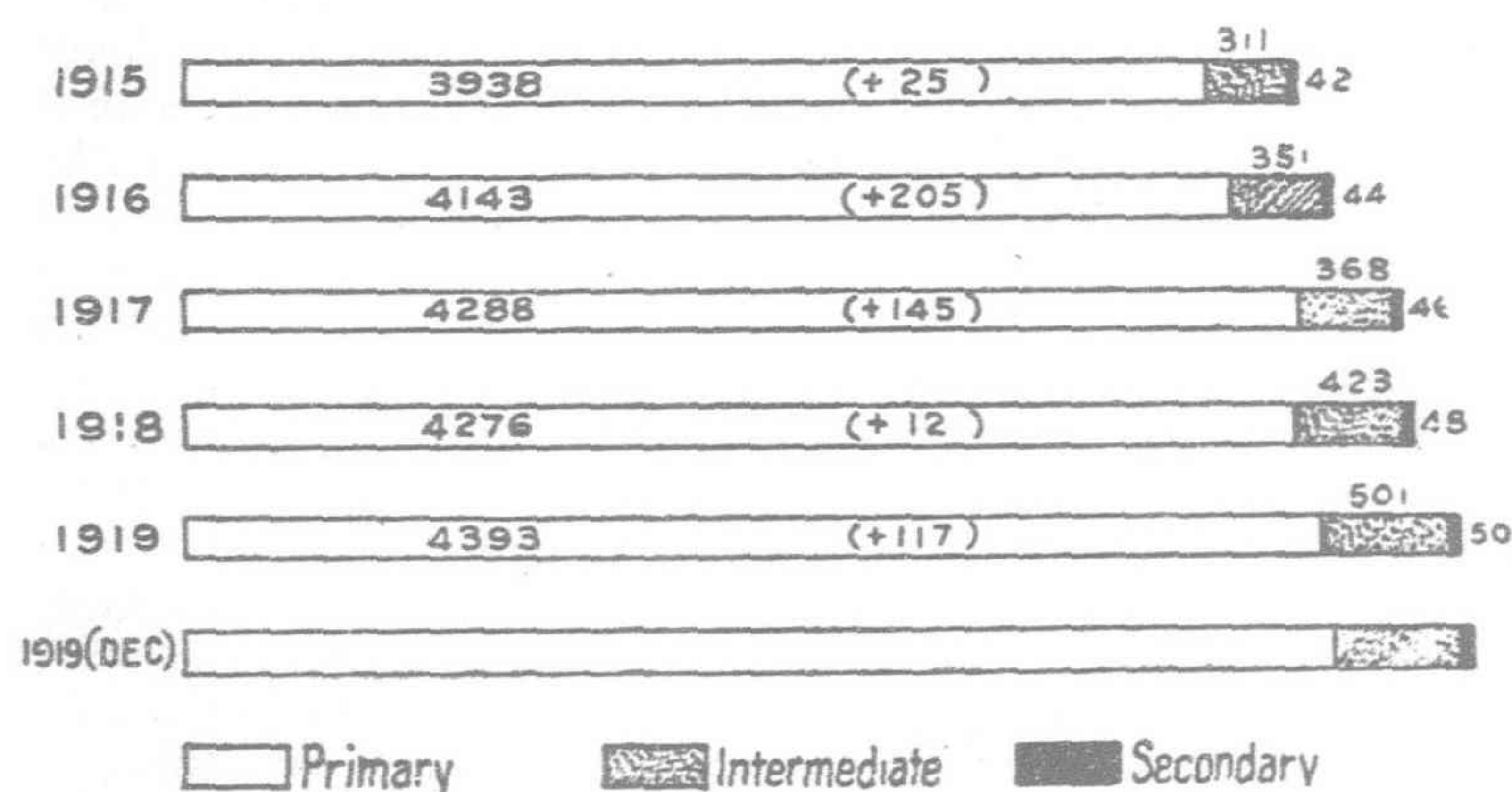
The Legislature during its last session gave general authorization to local governments to issue bonds for permanent public improvements. Through these bond issues local governments may be able to obtain larger amounts of money for longer periods of time at smaller rates of interest than through loans provided for by Act 2791.

Among the most important of the Insular loans which have been made to municipalities and to provinces for the construction and completion of school buildings are the following:

To the province of Iloilo, for normal school	...	£75,000
To the province of Tayabas, for dormitory	...	65,000
To the province of Capiz, for high school	...	50,000
To the province of Oriental Negros, for high school	...	50,000
To Balanga, Bataan, for high school	...	25,000
To Lopez, Tayabas, for elementary school	...	25,000
To Capiz, Capiz, for elementary school	...	20,000
To Surigao, Surigao, for elementary school	...	20,000
To Narvacan, Ilocos Sur, for elementary school	...	12,000
To Paoay, Ilocos Norte, for elementary school	...	10,000
To Abuyog, Leyte, for elementary school	...	10,000
To Unisan, Tayabas, for elementary school	...	10,000

Voluntary Contributions

As in former years, much help in the construction of school buildings was received from the people in the form of voluntary contributions of money, materials, labor, and land. A large number of municipalities have been authorized to solicit and to receive voluntary contributions. According to reports of division superintendents, P.245,530 were received in this manner and spent on buildings and sites during the school year 1918-19. In connection with the school extension funds provided for by Act



(+1318) = Increase over previous year

School Building in the Philippines since 1915

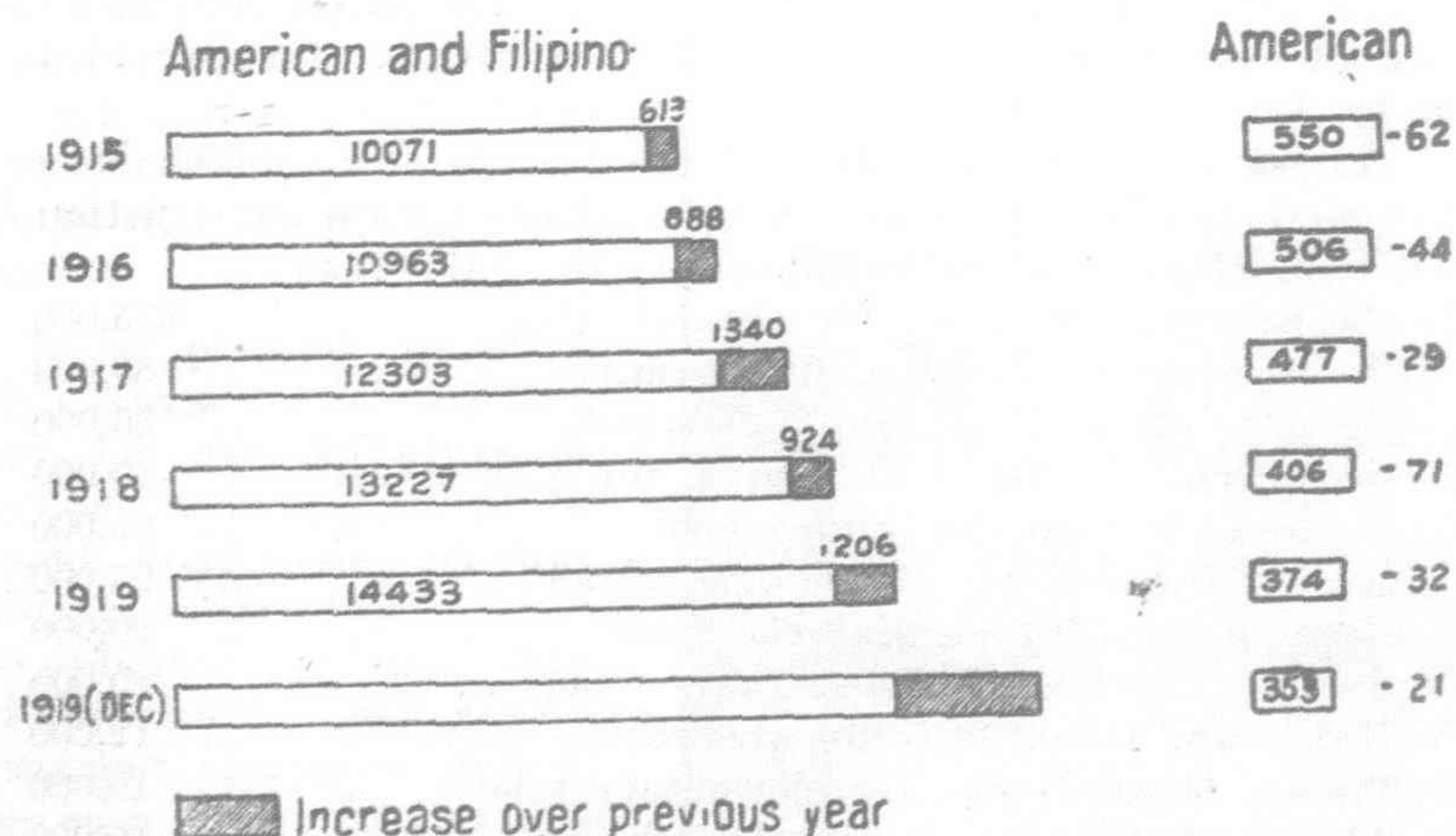
2782, it has been the policy to give preference to those communities which contribute most to the schools. This has encouraged the donation of a large number of buildings and sites by friends and patrons of schools. In some barrios, the people have secured land, constructed schoolhouses, and provided the school equipment, with the understanding that the Government would furnish the necessary teachers and supplies.

As has been said elsewhere in this report, the funds available last year for the acquisition of school sites and for the construction of school buildings was larger than ever before. The amount appropriated for school sites and for school buildings by Act 2786 was P.1,850,000. This was distributed as follows:

For normal schools	...	...	...	...	£400,000
For central and barrio schools	...	...	...	...	400,000
For high schools	...	...	...	...	300,000
For agricultural schools	...	...	...	...	200,000
For non-Christian and special provinces	...	...	...	...	50,000
For the completion of buildings under construction	...	...	...	...	200,000
For the School for the Deaf and the Blind	...	...	...	...	100,000
For the Philippine School of Arts and Trades	...	...	...	...	200,000

Total ... 1,850,000

The funds carried by this appropriation, with the exception of those allotted to the School for the Deaf and the Blind and the Philippine School of Arts and Trades, were allotted as Insular

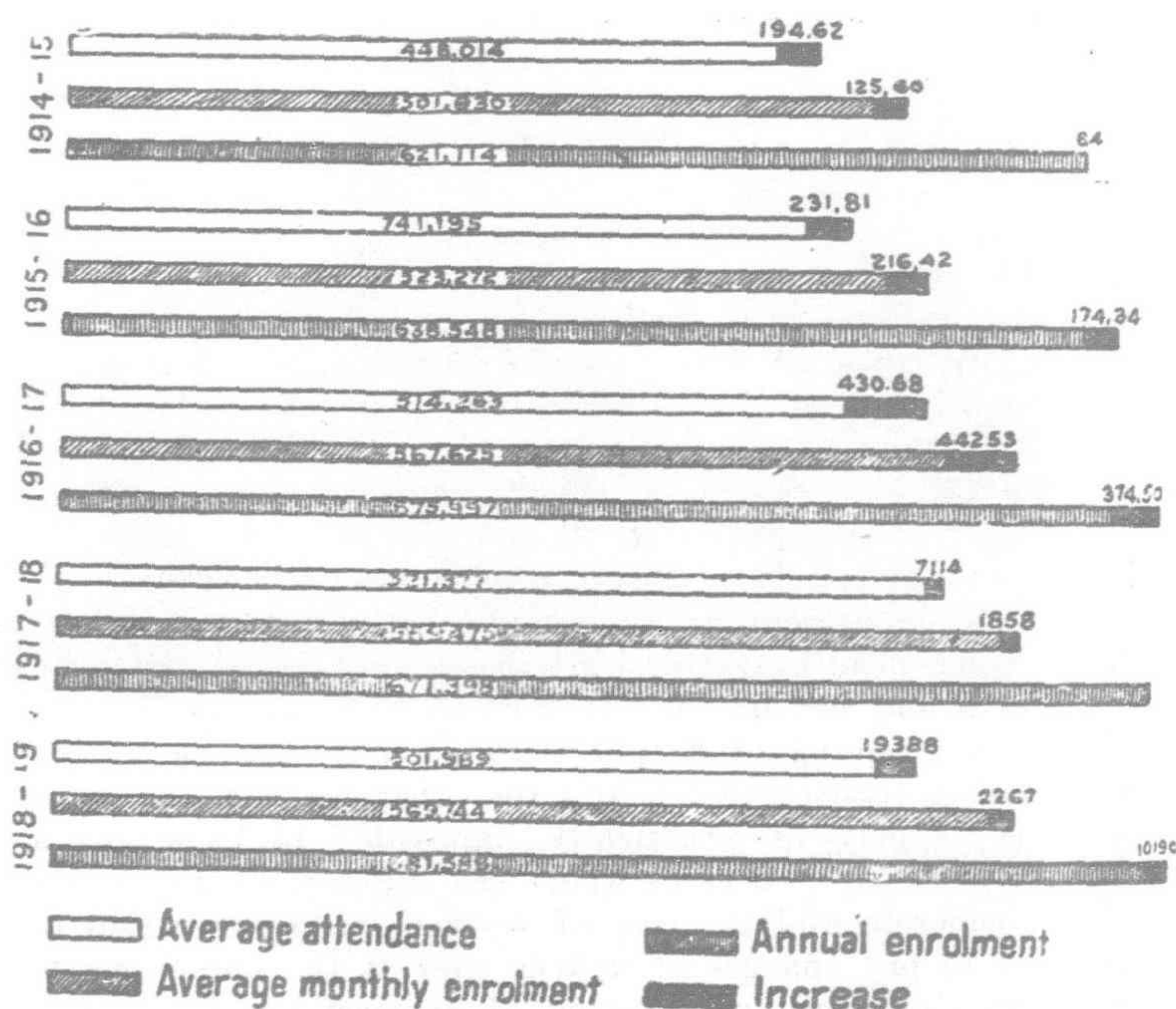


Number of School Teachers in the Philippines

aid to municipalities and provinces under certain conditions which had to be met before the funds were actually made available. Although different projects called for different conditions, the two most general of all the requirements were: (1) the provision of an adequate site, and (2) the raising locally of a sum of money which when added to the Insular aid would be sufficient to complete the construction of the building proposed. In many cases, local governments had to resort to Insular loans to meet the latter requirement.

Buildings Authorized

Authority was granted during the year for the construction of 38 concrete buildings, among the larger of which were: the Eastern Visayan Normal School building; the Western Visayan Normal School building; the Capiz High School building; the Isabela High School building; the Mindoro High School building; the Oriental Negros High School building; the Marinduque High School building; and an addition to the Romblon High School building. Plans are being made for the construction of a number of other school buildings, among the larger of which are: a new building for the School for the Deaf and the Blind; the Leyte Agricultural School building; the Union Agricultural School building; additional buildings at the Trinidad Agricultural School; a dormitory for high-school girls at Lucena, Tayabas; and a dormitory at Laoag in connection with the Northern Luzon Normal School. A site has been purchased in Pasay, Rizal, for



Number of Philippine School Children

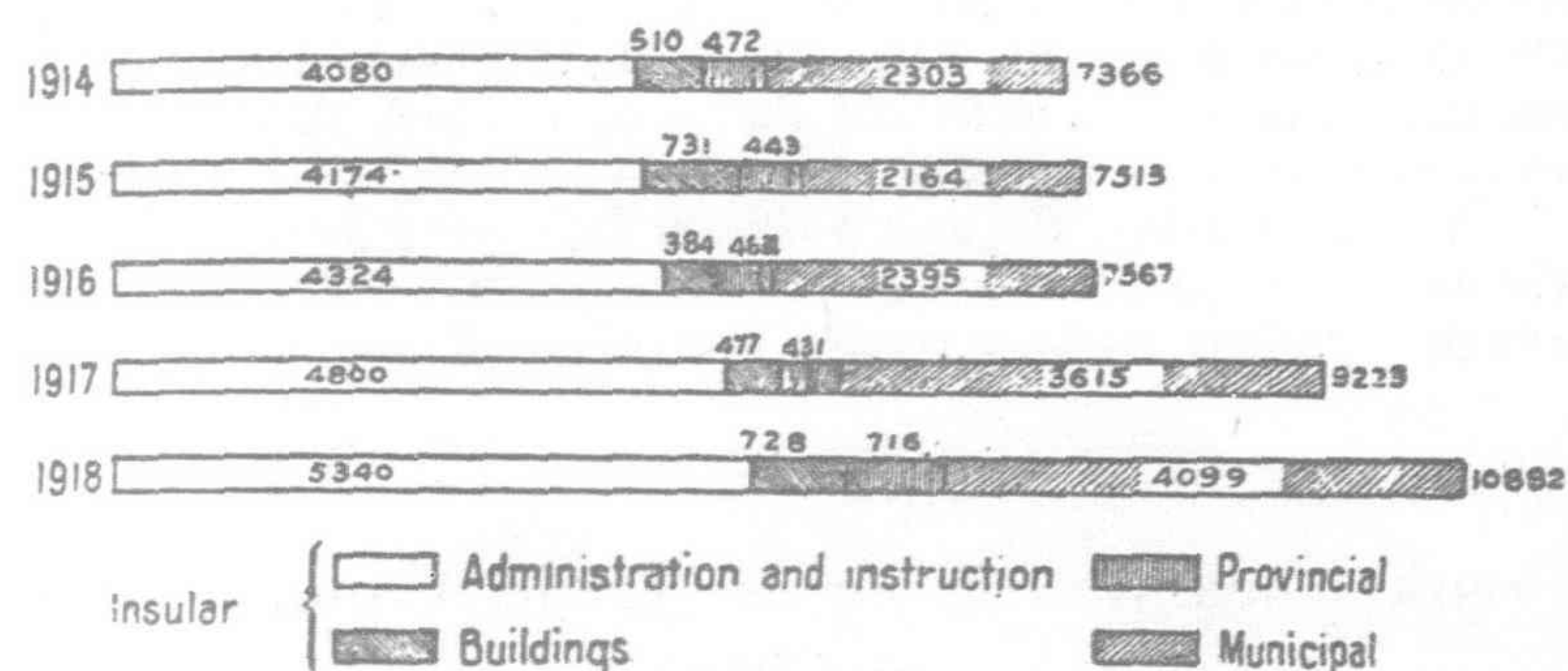
the School for the Deaf and the Blind, and it is hoped to begin work on the building in time for it to be completed late in 1920. A site has been selected for the Leyte Agricultural School, and work on the buildings is awaiting the final deposit of the funds, which have already been arranged for. A site has been chosen for the Union Agricultural School, but difficulties have been encountered in connection with its purchase due to conflicting claims as to present ownership.

Construction work on the buildings for the new normal schools has not proceeded as rapidly as this Office would like. The completion of the Northern Luzon Normal School building, at Laoag, which was authorized in 1918, has been delayed because of the large amount of grading required on the site and because of the difficulty of securing labor and materials. Work has not yet been started on the Eastern Visayan Normal School building, at Cebu, and the Western Visayan Normal School building, at Iloilo, because of difficulties met with in connection with the extension of the sites chosen for these buildings and because of the possibility of changes being made in the building plans.

Work on the Zamboanga Normal School building is being pushed, and the building will be ready for occupancy at an early date.

The Enduring Value of Concrete

That the construction of concrete buildings is more economical in the long run than the construction of wooden buildings is shown by the reports from the field on buildings destroyed during the year. Of the 39 buildings totally destroyed during 1919, not one was built of concrete and not one was classified as a permanent structure.



What it Costs to Teach the Filipino

To house all of the schools during the school year 1918-19, incomplete reports show that 476 buildings were rented at a total cost of P.83,278. These figures indicate the extent of the shortage of buildings and in a measure the extent of the building program which the Bureau is called on to undertake. Every effort is being put forth in every division to do away with rented buildings as fast as possible, because rented buildings are not satisfactory for school purposes.

At present there are 3,432 buildings, of which 919 are classified as permanent; 816, as mixed-material; and 1,697, as temporary or provisional. Of the 919 permanent buildings, 475 are constructed according to standard plans and are known as Gabaldon school buildings. The increase in the number of standard-plan buildings is 16; in the number of special buildings, 36; in the number of mixed-material buildings, 75; in the number of temporary buildings, 271. The increase in the number of all buildings since 1918 is 398, of which 362 were constructed without Insular assistance. Of the 362 buildings constructed without Insular assistance, 4 are concrete; 96 are mixed-material; and 262 are temporary.

Improvement of School Sites

The problems in connection with the acquisition and the improvement of school sites received due attention during the last year. The aim is to secure a first-class site for every school established in the Archipelago. After the site is acquired and after the building is erected, the aim is to make the school the most attractive-looking place in the community. In a circular sent from this Office during 1919 to division superintendents, the policy of making all sites first-class was reiterated and special reference was made to the acquisition of barrio-school sites. Superintendents have been urged to obtain first-class sites now while land is comparatively easy to obtain, and they have also been urged to comply with the requirements of the Service Manual in regard to the conversion of second and third-class sites into first-class sites as soon as possible. Efforts have been made to enlist the aid of the barrio people by assuring them of a school and teachers if they would furnish a site and, if possible, a building. This plan is recommended because it gives barrio people a personal interest in the school for which they have furnished the site and because barrio people can obtain a site at a much lower price and with much less annoyance than government representatives.

The Gas Industry in Japan

IN no country in the world has the gas industry greater opportunities, a wider field and a more promising future than in Japan. All the factors necessary for a prosperous and gigantic gas industry exist there: Large towns, an enormous population, industrial buildings, a suitable climate, and native coal deposits, as well as enterprise and capital. There, as elsewhere, gas has to compete with electricity, but as everywhere else gas can hold its own against electrical competition, so also in Japan it has nothing to fear from it.

With an area of 156,600 square miles, three times that of England, and a population of 56,000,000, considerably larger than that of Great Britain, it would indeed be extraordinary if the gas industry, with its unnumbered advantages, could not thrive. As regards domestic use for heating and cooking, the climate is obviously an important factor. As might be expected from the great length of the country in a north and south direction, from 50 deg. to 21 deg. both north latitude, there are strongly marked contrasts. The districts bordering the Pacific differ greatly in temperature from those facing the sea of Japan (the sea between the Japanese islands and the continent). In the former the temperature is more moderate than in the latter, since equatorial currents wash the shores and they are also protected by mountain ranges from cold winds, while the districts facing the Sea of Japan are directly exposed to the northwestern winds coming from the wide plains of Siberia.

In Japan, there are at least thirty towns with populations exceeding 50,000 persons, and there are two cities with populations exceeding 1,000,000—Tokio, 2,250,000 and Osaka, 1,300,000. Other large towns are Yokohama, 420,000; Nagoya, 400,000; Kobe, 400,000, and Nagasaki, 200,000, and there are several with populations exceeding 100,000. In addition there are more than one hundred towns with populations exceeding 20,000 persons. All these cities and towns provide splendid opportunities for gas enterprise.

As the gas industry is dependent on coal, and more especially on local output, some details of Japanese production are important. In the year 1900 coal mining was in its infancy; the output was only 7,360,000 tons. By the year 1908 it had doubled and stood at 14,760,000 tons. During 1915 it exceeded 20,000,000 tons, and may be now estimated around 25,000,000 tons. In addition, probably 600,000 tons are imported, so that the gas industry is assured of the necessary raw material. For street lighting, many splendid opportunities occur in Japan. We read of thoroughfares seven miles long and 78 ft. wide. What greater feat could a gas engineer desire than the successful installation of an incandescent gas lighting system? In the towns there are spinning and weaving mills, steel works, copper refineries, type foundries, engineering establishments, carpet, brush, bicycle and other factories, as well as banks, warehouses, shops and residences, all suitable for gas installations and many providing tempting opportunities for the ousting of electric installations and the substitution of the most up-to-date gas system, with its manifold advantages.

There are now probably over a hundred gas companies in Japan with a paid-up capital of \$50,000,000. The development of the industry during a period of ten years is shown by the most recently available official figures, given below:

Year.	No. of Companies.	Paid-up Capital.
1906	6	\$4,572,000
1907	6	6,206,000
1908	8	8,750,000
1909	8	9,798,000
1910	10	13,515,000
1911	55	20,327,000
1912	74	26,029,000
1913	75	33,375,000
1914	87	39,458,000
1915	91	42,569,000

From these figures several interesting points may be deduced. In 1910 there were ten gas companies, each with a capital of \$1,351,000 evidently companies of considerable importance. The following year forty-five new companies were established with an aggregate capital of \$6,812,000 equal to an average of \$151,300.

Obviously these were relatively much smaller undertakings. They may be assumed to be most encouraging evidence of the spread and popularity of gas. Each of these small companies has within itself the germ and faculty of increase into a larger one; each may be described as being in the infant stage, which only requires time to expand and grow. By the year 1915 the number of new companies, over and above the ten companies existing in 1910, had increased to eighty-one and the paid-up capital to \$29,054,000, a truly remarkable advance for a period of five years. The tendency for the companies to grow both in number and importance is shown by the average amount of the capital of each.

The coal consumed in 1906 was about 80,000 tons; now it exceeds 520,000 tons. The number of houses supplied in 1911 was 348,607; now it is 650,000. The gas supplied to lamp and the number of motors fitted up have also increased, as is shown in the following tabulation:

Year.	No. of Lamps.	No. of Motors.
1906	196,601	998
1907	249,623	1,261
1908	300,203	1,484
1909	354,948	1,584
1910	404,367	1,673
1911	841,014	2,089
1912	1,183,135	2,324
1913	1,833,610	2,018
1914	1,542,428	2,153
1915	1,474,496	2,002

The number of factories operated by gas engines is increasing rapidly in Japan, as shown in the schedule covering ten years given below. There are now 1,660 gas engines, with a horsepower of 28,315:

Year.	No. of Engines.	Horsepower.
1907	423	4,745
1908	506	7,673
1909	831	11,229
1910	779	18,764
1911	956	24,625
1912	1,246	31,971
1913	1,443	41,400
1914	1,655	42,984
1915	1,620	43,101
1916	1,660	48,318

These factories may be divided into groups—textile factories, machine and iron works, and chemical works. Of the textile factories, the largest group consists of 677 weaving sheds; there are 13 spinning mills, 27 throwing mills, 31 cotton grinding and refining mills, 28 bleaching, dyeing and finishing works, 25 knitting and braiding works, and various smaller classes. The machine and iron factories group is made up of 93 machine-making works, 33 shipbuilding yards and carriage-making works, 45 tool works, and 89 foundry metal and metal-ware works. The chemical factories group consists of 160 different establishments. There is a large group of food and drink factories using gas engines. These number 95 in all of 1,441 hp., and include 37 breweries, 15 rice and flour mills, 15 mineral water, lemonade and ice works, 11 confectionery works, and many others. There is a large group of 51 ceramic works using gas engines, of 1,603 hp., and 29 paper mills requiring 3,431 hp. In addition, there are 16 oil and wax works, 16 medicine and chemical works, 10 soap and candle works, and 7 manure works that are all fitted with gas engines. A large miscellaneous group of 194 works use gas engines of 3,016 hp. These include printing and publishing works, 33 wool and bamboo works, 17 electrical industry works, with 1,627 hp., and 109 gas industry factories, requiring 4,336 hp. Practically every industry is represented. The Japanese government in its numerous factories and departments uses 16 gas engines with a total of 2,860 hp., distributed as follows: The Cabinet printing office, 2 gas engines of 77 hp.; the finance department, 1 gas engine of 30 hp.; the military department, 6 gas engines of 352 hp.; the navy department, 3 gas engines of 70 hp.; the department of agriculture and commerce, 3 gas engines of 2,312 hp.; and, lastly, the department of communication, 1 gas engine of 19 hp. Summing up, those interested in the gas industry in Japan have every reason to be satisfied with the position attained and with the promise of future expansion.

The large population, with its requirements and property, has benefited by the comparatively recent introduction of gas; and as the advantages of gas are now fully understood and appreciated, the gas industry in all its forms has a great future, not only in Japan proper but also in the neighboring Korea and Formosa.

One large town, Yokohama, has raised a gas loan in two issues and has established a precedent which other Japanese towns may follow. The first issue was for \$317,500, the whole of which, except a small balance, has been redeemed. It is likely that by this time the whole has been redeemed. The rate of interest was 6 per cent. and the price at which the bonds were taken up was 95. They were sold abroad at 97.50, giving the underwriters a 2½ per cent. profit. The second issue amounted to \$588,000 of which \$36,000 has been redeemed. The rate of interest of this second issue was 5 per cent., an improvement on the first issue. On the other hand, the price at which they were taken up by the underwriters was 92.50 and the price at which they were sold in foreign markets was 97.50.

As regard labor, the men work 359 days every year and above the age of fifteen years are paid 27 cents a day, equal to \$97 per annum. Female workers receive precisely half this amount.

Frank Rhea Returning as Trade Commissioner in China

FRANK RHEA is returning to China, via England, as Industrial Trade Commissioner to China. Mr. Rhea expects to reach Peking about December 1. He will spend at least two years investigating transportation conditions in China and gathering data to facilitate the further development of American trade in this field. He made a similar trip before the war and in 1918, when he visited Australia, the Philippines, China, East Siberia and Japan.

PAINT MARKET IN JAPAN.—The paint market in Japan, says the *Japan Times*, which was in a flourishing condition during the past few years on account of the increasing demand in that country through the sudden growth of shipbuilding and construction, etc., and the growth of the export of paints and varnish to foreign markets since the stoppage of the supply of foreign manufacture through the war, has been plunged into a depressed condition since last spring because of the business inactivity and the sudden decline in demand both in Japan and abroad.

The rise in demand for the Japanese manufacture in China, India and the South Sea islands consequent upon the gradual scarcity of the foreign article, together with the growth of demand in Japan, led to an increase in production, many paint manufactories having enlarged their business to meet the increasing demand, while several new manufactories have come into existence since the outbreak of the war.

The sudden falling-off of demand through the decrease of exports to the foreign markets and the inactive shipping and the stoppage of construction consequent on the financial depression since last spring has naturally resulted in the over supply and the depreciation of market price of the goods. The price for paints for ship bottoms and all other uses has recently fallen 20 or 30 per cent., and owing to a lack of favorable factors to stimulate the feeling of the market, the price tends to further depreciate.

JAPAN-ROUMANIAN BOARD.—The Japan-Roumanian Commercial Board has been created under the chairmanship of Baron Shibusawa. The board includes many influential business men and manufacturers in Japan, its principal functions being to conduct investigations necessary for the inauguration of trade between Japan and Roumania.

JAPAN POWDER COMPANY.—This company which did a large business during the war has been compelled to practically suspend operations and discharge many of its employees. It is reported that the plan to organize the Imperial Powder Manufacturing Company will now be abandoned.

American Hydro-Electric Plant in Afghanistan

By A. C. Jewett



The American Power House at Jabl-us-Siraj. The Entire Electric Equipment for this Plant was Secured from the General Electric Co.

FROM early in 1911 until late in 1918 the writer was engaged in Afghanistan in the construction of a hydro-electric project for the ruler of that country. The work included building the dam and power canal, the assembling and erection of the machinery of the generating station, and the erection of the distributing machinery for a 1,500-kva. hydro-electric plant, in a remote part of a wild country far away from any modern means of transportation and with the aid of only one or two white men. The difficulties in such out-of-the-way engineering were so numerous, and the methods adopted so different from those in accepted use in a developed country, that the writer feels a record of it is worthwhile.

In 1910 the late Amir of Afghanistan bought from an English firm the machinery and material for a hydro-electric plant. The purchase price was Rupees 1,100,000, or \$367,000, and the terms were full payment in advance f.o.b. Bombay. The amir was to arrange and pay for transport from Bombay into Afghanistan and for all erection of plant, the selling firm agreeing to recommend an engineer and two associates to make the installation. The services of the writer, to act as chief

engineer in charge of the work for the amir, were obtained through the company which supplied the electrical machinery. At that time the writer had but recently returned from Kashmir to the States, having just completed the installation of a hydro-electric scheme for the Kashmir government. When the writer reached India in May, 1911, a large part of the amir's plant had arrived at rail-end in Peshawar, and most of the rest was on the way or in process of manufacture, so that there was no opportunity to make any of the changes in the layout that were afterward found to be necessary.

The power house was situated at Jabl-us-Siraj (the site of the old City of Parwan), 50 miles north of Kabul by road. The amir intended the plant to furnish power for operating the government machine shops, gun factory, mint, boot factory and woolen mills located in Kabul, and incidentally to light his palaces. No coal is mined in Afghanistan, and as the country is deforested, wood is very scarce and high in price. The present cost of operating the shops and mills by steam is over \$150,000 per year.

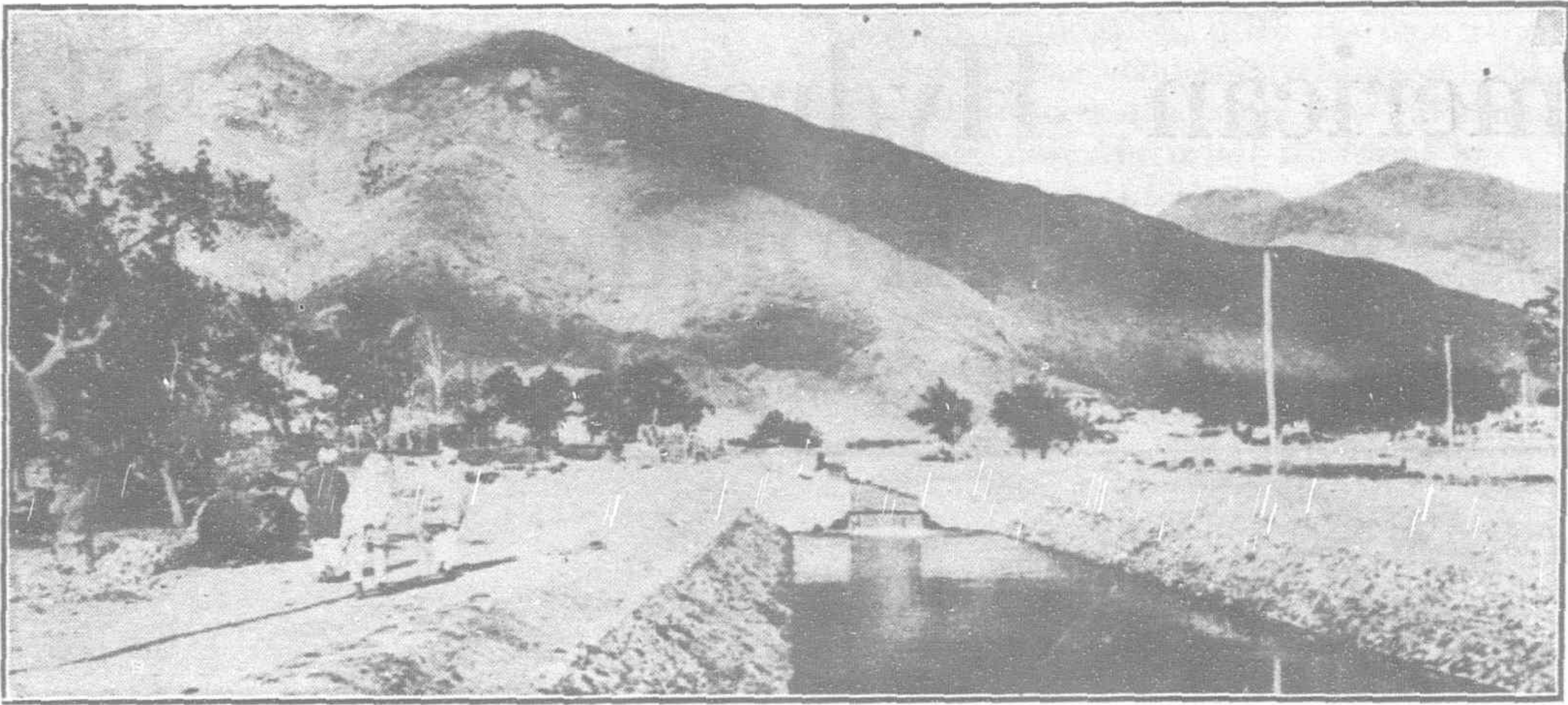
The generating plant consists of three 500-kva., 60-cycle, 2,300 volt, three-phase horizontal General Electric alternators, direct-connected to Francis turbines designed to operate under a head of 130 ft.



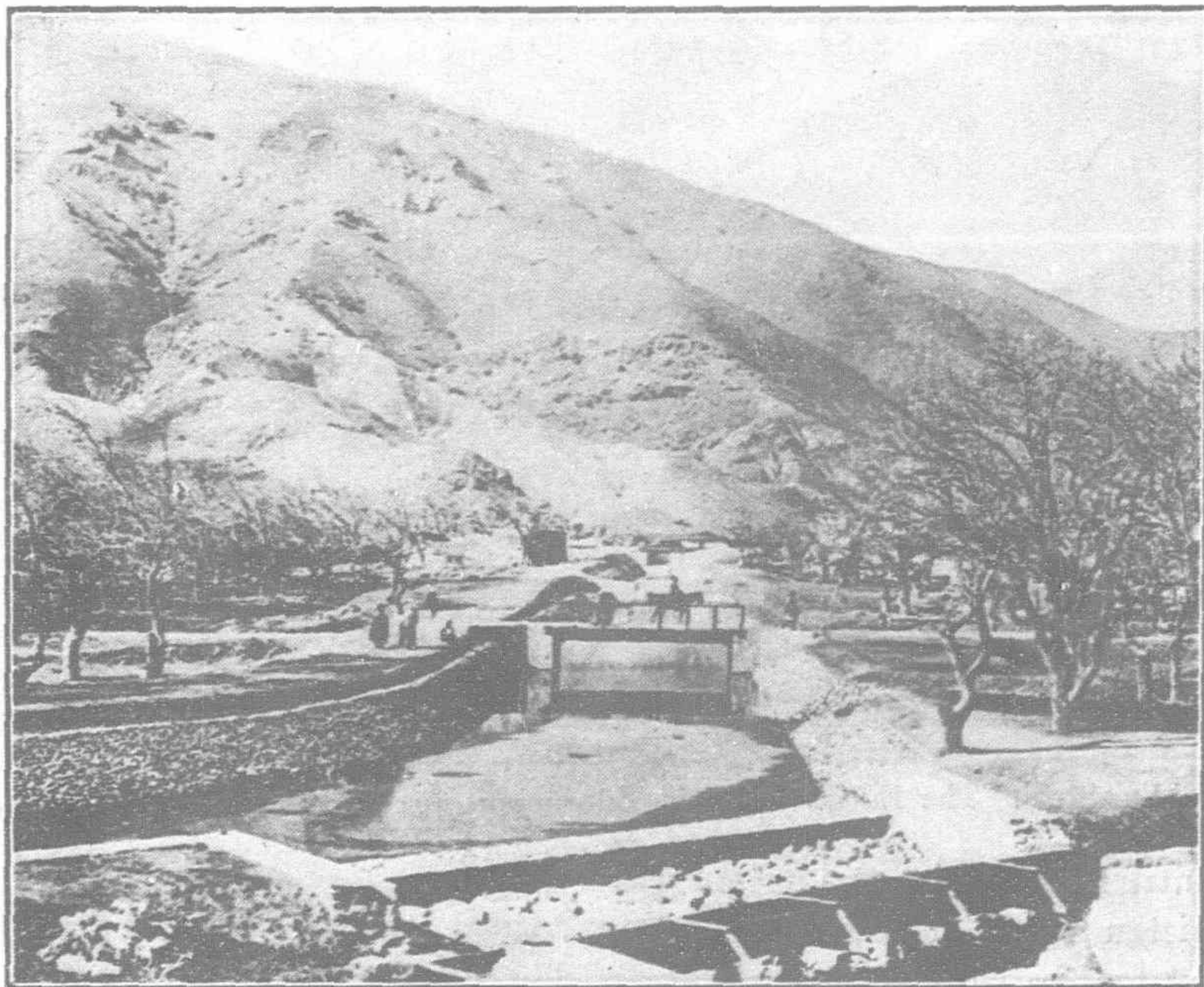
Another View of the Jabl-us-Siraj Power House Built by an American Engineer

The transmission voltage of 44,000 is stepped up through type "H" oil-filled, self-cooling transformers, there being two banks of three 310 - kva. single-phase transformers. The transmission line is 42 miles long, and consists of a single three-phase circuit, the wire being No. 2 R. & S. copper-clad steel. The wires are supported on pin-type insulators mounted on 50-ft Milliken galvanized steel towers spaced 560-ft. apart. The phone line consists of two No 8 B. & S. copper-clad steel wires placed 6-ft. below the power wires. There is a substation in Kabul with transformers that step the line voltage down to 2,300, the distributing voltage. All of the induction motors but two are large enough to operate directly off the 2,300-volt circuit. The distribution lines are supported on Hamilton sectionalized steel poles, wooden poles being practically unobtainable.

The transportation of the plant from Bombay to rail-end at Poshawar (1,500 miles), and from there, by pack horses, camels, bull carts and on trolleys drawn by elephants, 250 miles to the site of erection, was time-taking, difficult and



A Section of the Feed Canal



Another View of the Feed Canal

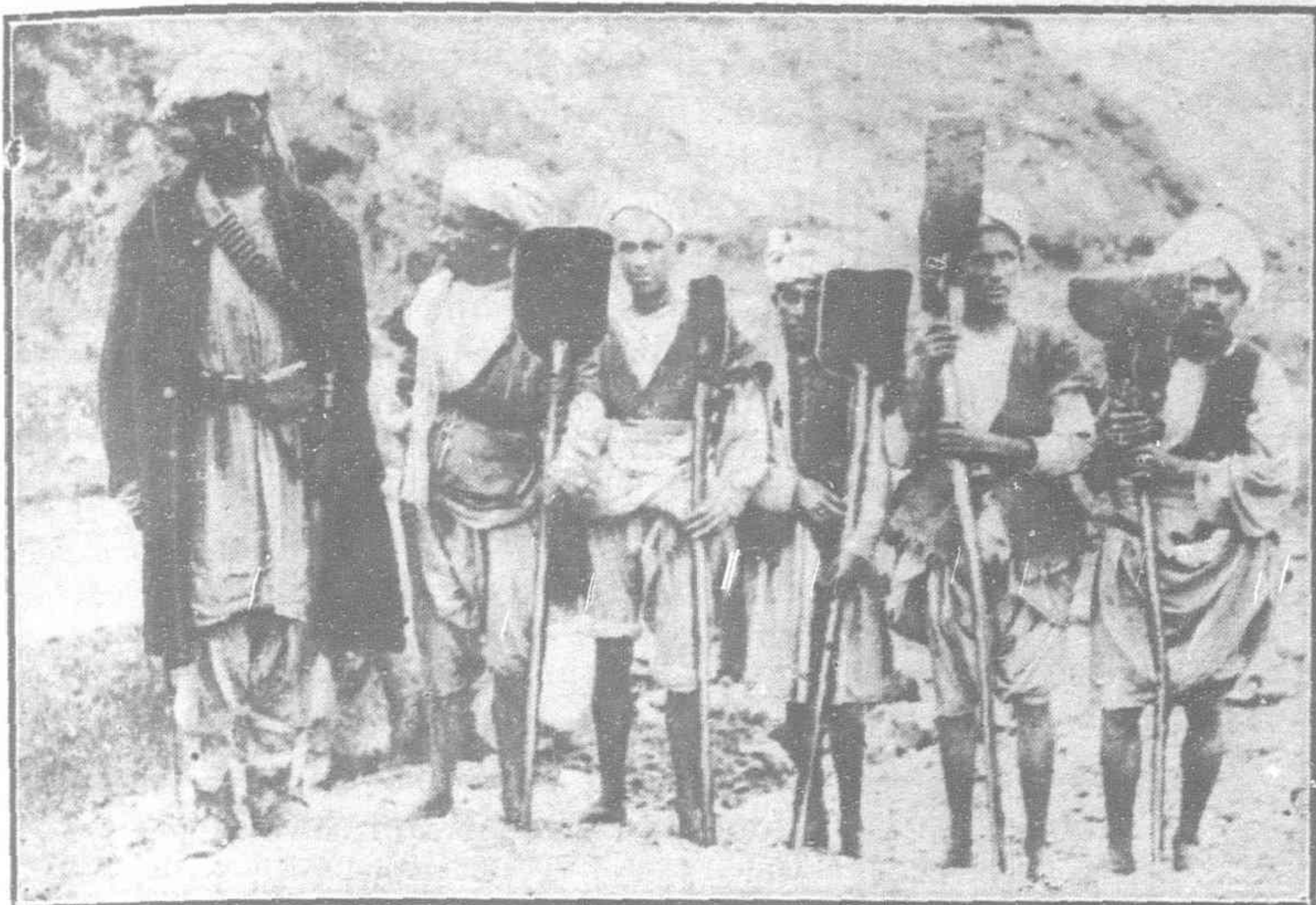
costly. The route lay through the Khyber Pass, via Jellalabad, thence through the mountains to Kabul and Jabl - us - Siraj. Loads would be taken part way in the autumn and dumped and left at some sari, because of the snow in the passes. Camels cannot be used in the hot months because of a fly that kills them off in the Jellal-

abad district. The heavy pieces were hauled on heavy trucks drawn by elephants, of which there were only nine available, and it took them three months and more to make a round trip. They could not be used in winter on account of the cold. The transport was all in charge of the amir and his officers, and the work was done by Afghans. The cost of transport, including the graft, was equal to the first cost of the plant. It was impossible to get accurate figures on it, but the amir told the writer that it was making the cost double to him.

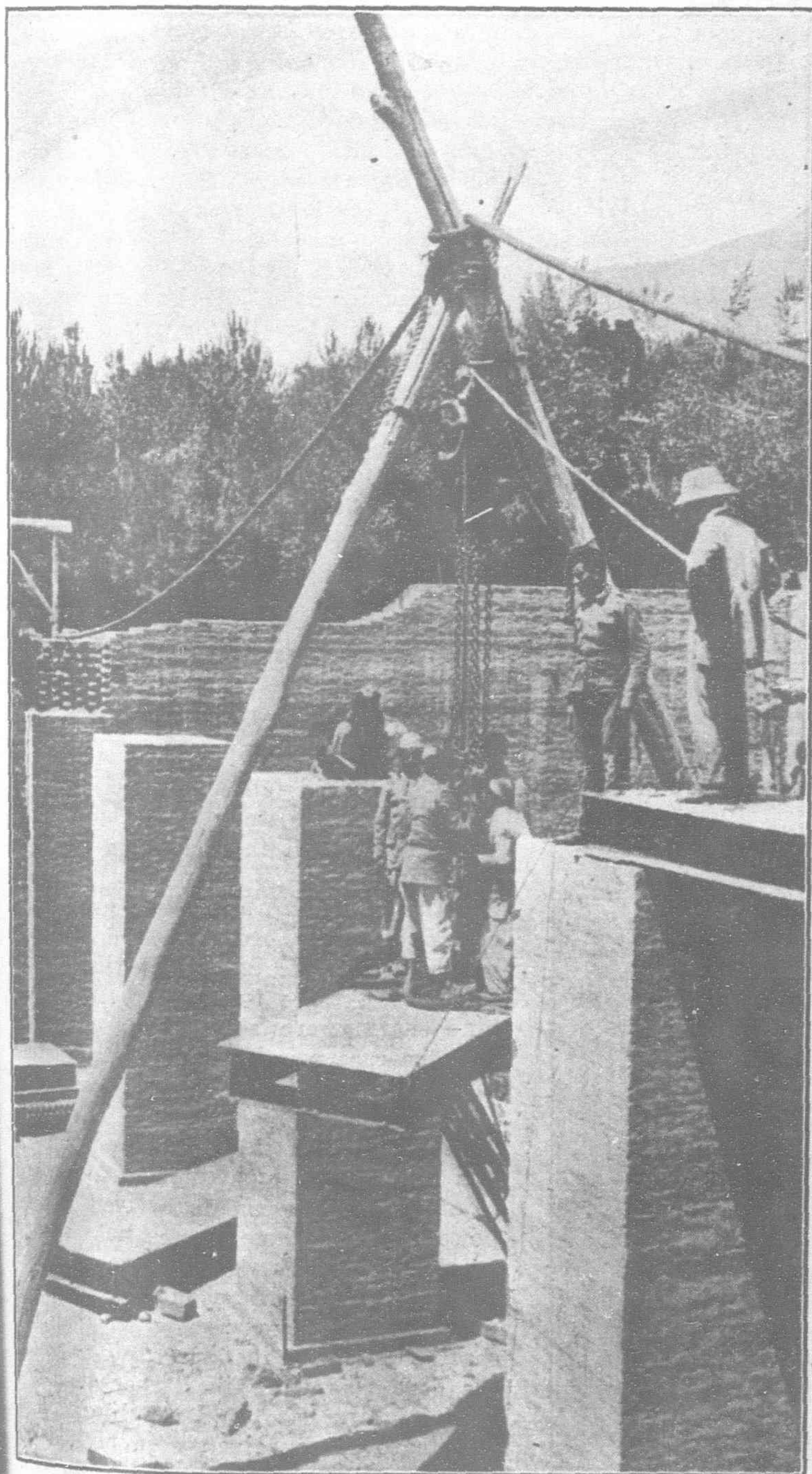
The man sent to Afghanistan to locate the site of the hydraulic plant and make the plans and estimates was quite beyond his depth, and made many mistakes, some that were ridiculous and more that were serious. The canal was



How the Material was Brought 250 Miles Over the Khyber Pass in Elephant Carts



Here are Five Sorry Afghans Conscripted for Work by the Soldier on the Left

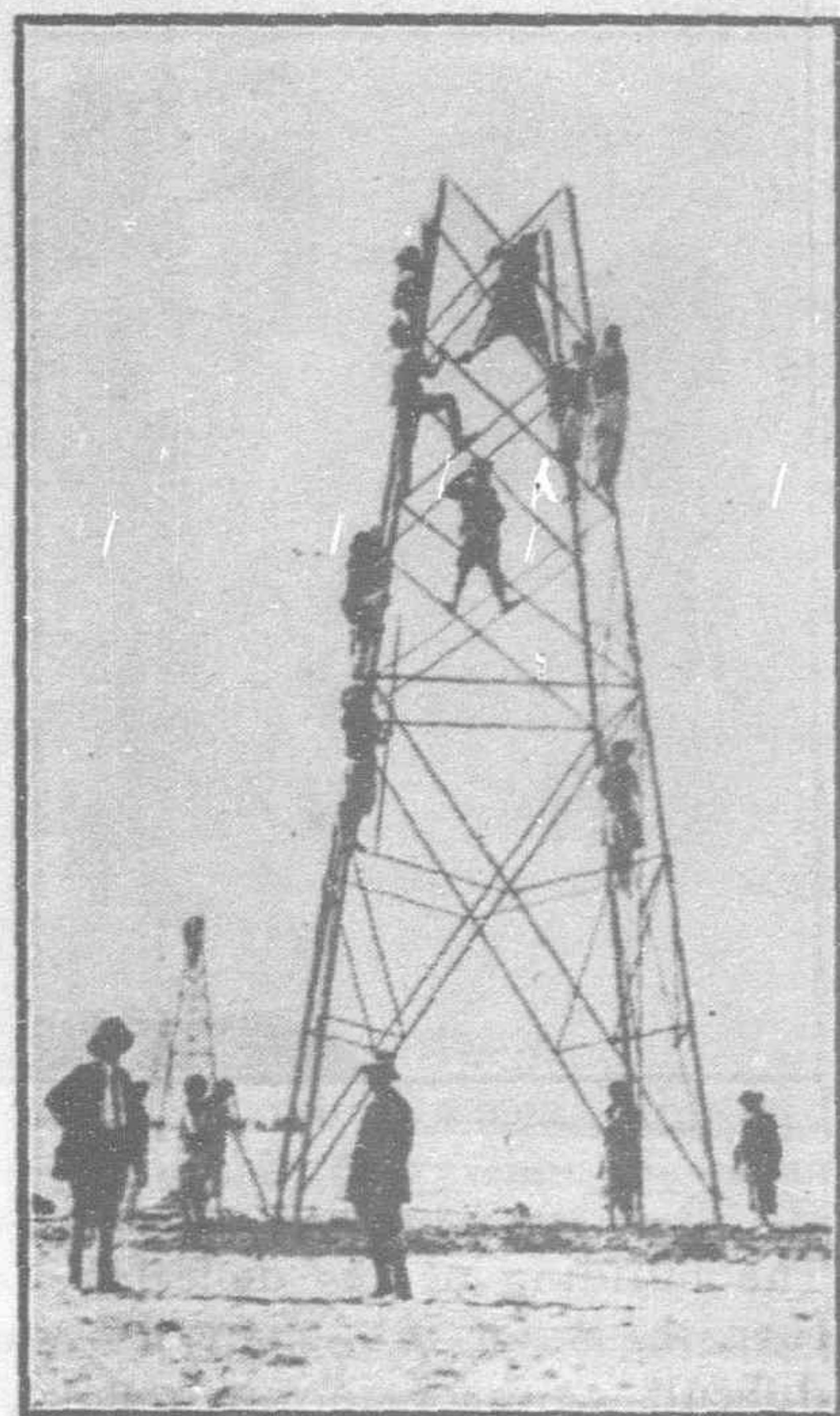


Laying Foundations for the Turbines

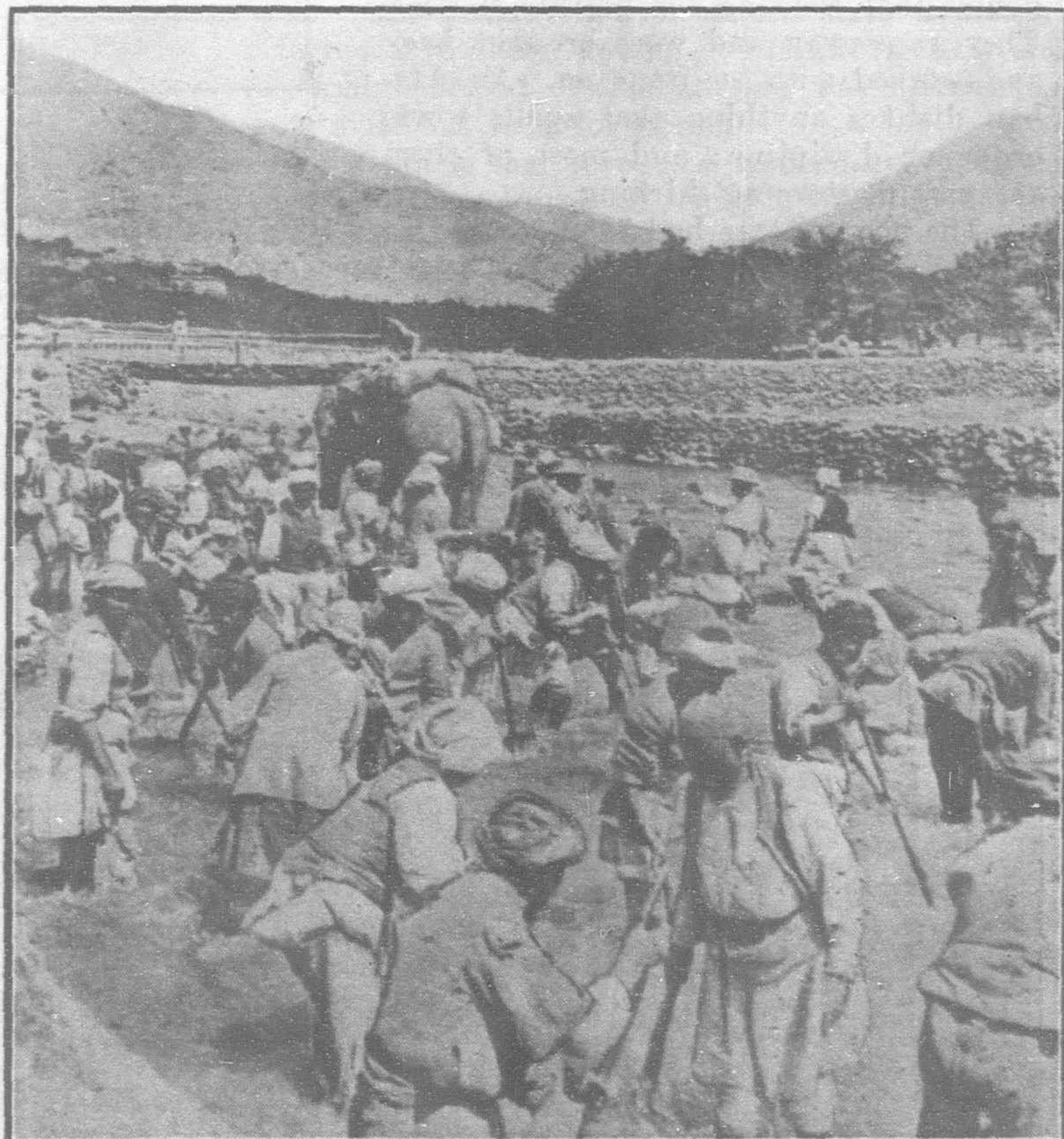
1½ miles long, and he estimated that 100 men would finish it in 46 days. It was located on a side hill for about one-third of its length, and the hill had a slope of 1:1 and 1:1½. There were many big boulders that had to be blasted, and the whole hillside had to be shifted, a quarter of a million cubic yards of soil moved, and all by hand labor. It took an average of 500 men three years to finish it.

The first lot of men sent out on this work were equipped with wooden shovels; moreover, they were weavers and did not know how to shovel. The power canal followed the site of an irrigation ditch, and as this was on a side hill with a steep slope and irrigation could not be interrupted, it was necessary first to enlarge another irrigation ditch, taken out further up the river, so it would carry for both the upper and lower systems, before work could be started on the power canal. This

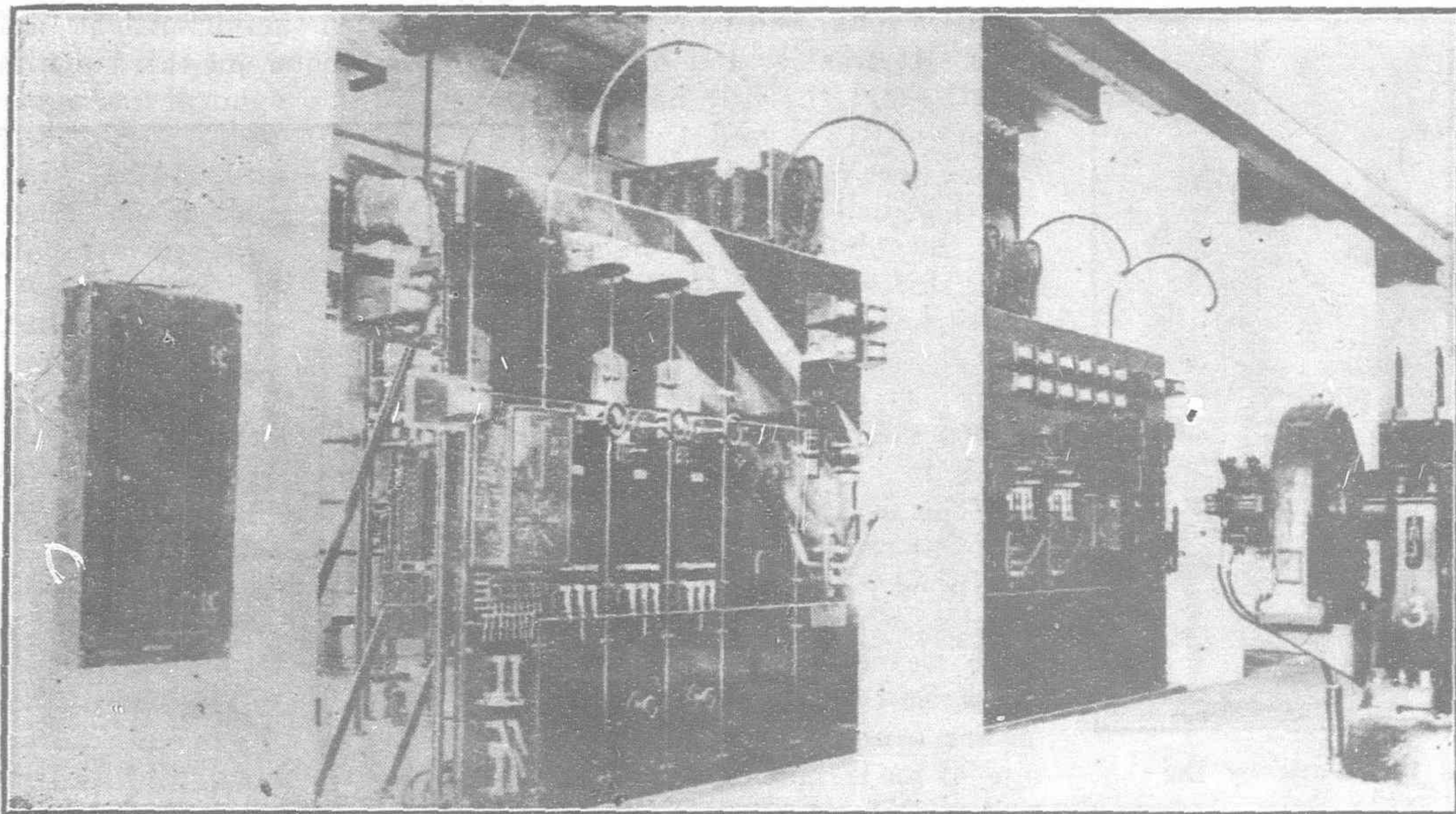
upper ditch ran alongside a rock cliff, and there was a lot of blasting to do. It took the sappers and miners that the amir sent most of the season to finish it. After it was enlarged work was begun on the power canal. The second year the amir supplied 500 sappers and miners for the work; it took him till May to collect them. They were supplied with tools and material for blasting. The sappers and miners (they called themselves "saffer miners" and we called them "suffering beggars") blasted out the largest boulders, and those up to a ton were hauled out with elephants. The elephants—there were two of them—were a great help; one elephant would handle more stone than fifty men.



Agile Afghans Erecting Transmission Tower—They are Quick Learners and Good and Cheap Workers
—Total Labor Cost of Erecting this Tower, 48 Cents



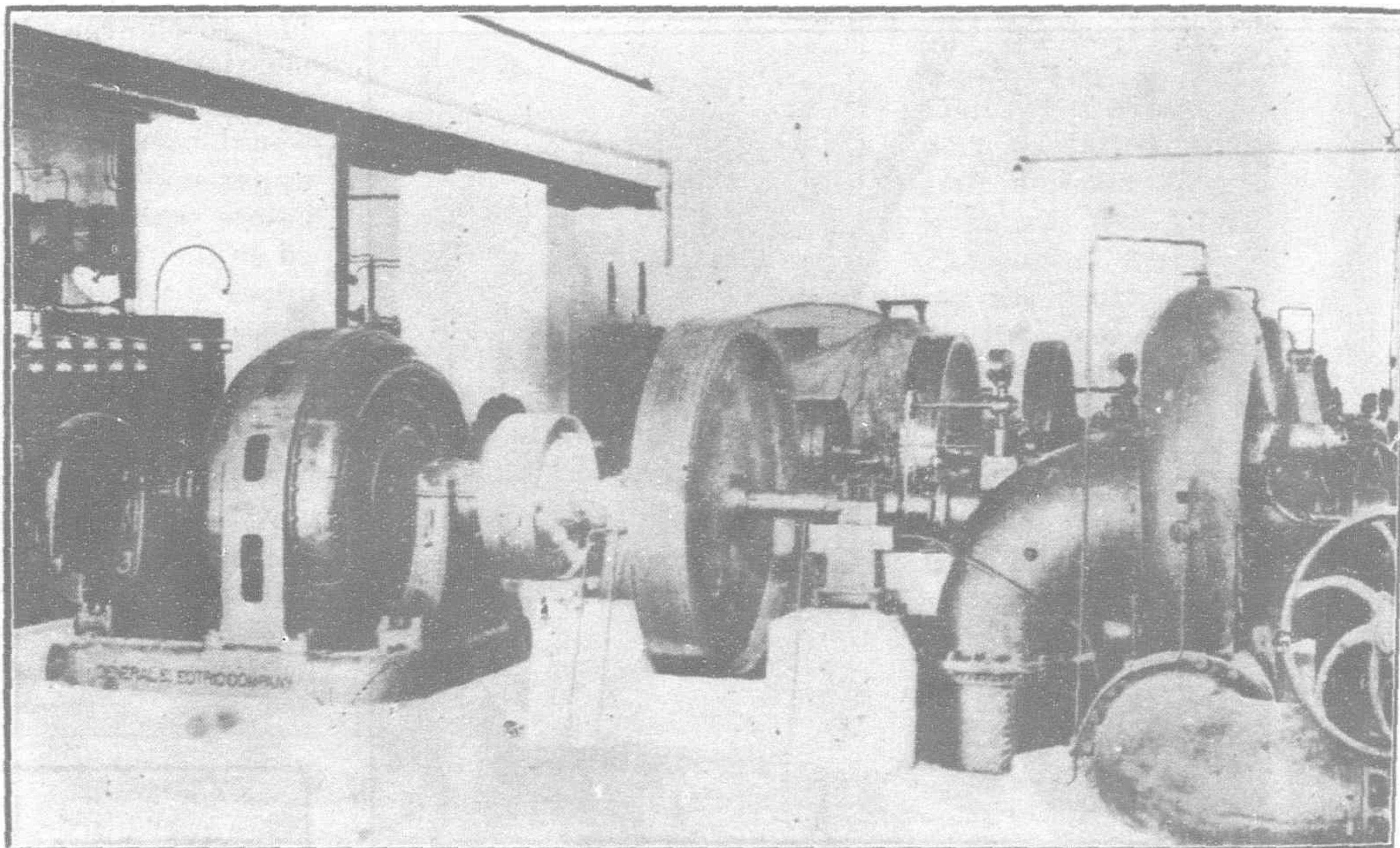
Labor is Cheap and Numerous, Elephants are Essential



The Switch Gear

The river was a torrential stream. The building of the deflecting dam to turn the water into the canal was rather difficult, as there were no pumps, barring an old hand fire engine, nor was there any wood with which to build cofferdams or flumes. Cement delivered at the site cost \$5 per cubic foot. The masons, *kalifa gil kars* (literally, "learned mud workers"), had never seen cement and had to be stood over with a stick to keep them from using it like mud. Most Afghan houses are built with sun-dried brick and mud, and it was difficult to get the "learned mud workers" to lay stone properly and be economical in the use of mortar. The labor was paid, but the pay was always months in arrears, and it was forced and unwilling. Masons got from 30 to 40 c. a day and ordinary labor \$1.60 per month. A man could get double that working for private parties. They ran away and were brought back and worked with leg-irons on. An Afghan dislikes anything that spells work, order or discipline; and most of them are past masters at shirking.

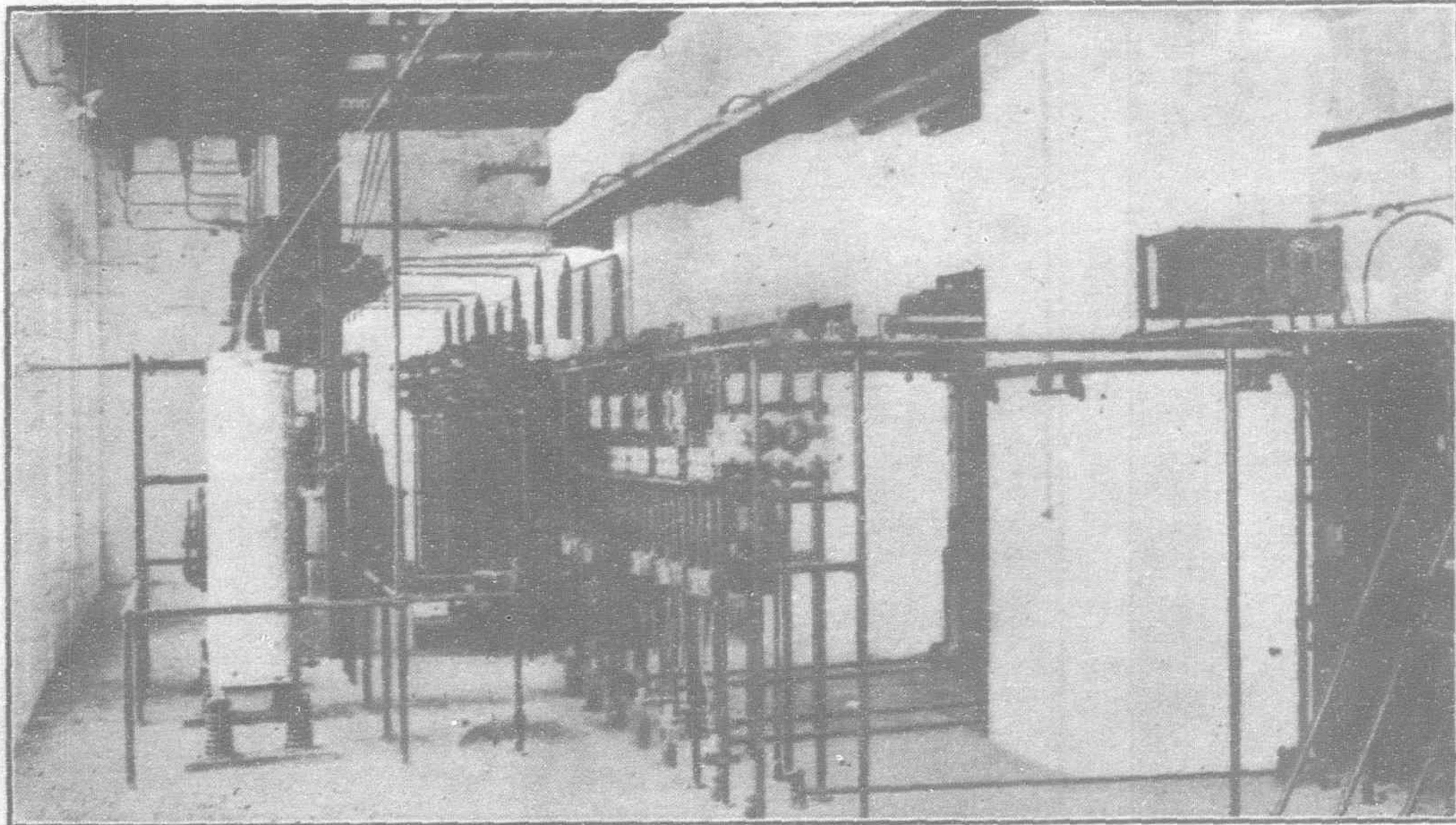
The power house had been located in a bend of the river bed in the dry season, and the river had to be turned to avoid its being



The Generators

I-beams riveted together with a plate. The manufacturers had been instructed to ship the beams separately to be riveted up at the site of erection, but they failed to follow instructions, and that part of the work was held up a whole season till the elephants could go for them.

The hydraulic apparatus gave a lot of trouble. The order for the turbines, which were made on the continent, had been sublet three times. The three turbine shafts were shipped in one case, and the case was broken up long before they reached rail-end, where they arrived red rusted and scarred. The shafts were condemned in Peshawar, and it was a year and eight months afterward before the replacements arrived at the power house. These were not turned true to gage (nor were the condemned ones); where there should have been press fits the bores were larger than the shafts, the worst instance being where the bore was 0.011 in. larger than the shaft, in the case of a coupling. The outlets to the receiver were riveted on crooked, the flanges did not line up with the gates, and had to be cut off and



Another View of the Switch Gear

rotated to make the holes line up with those in the gate flanges. On assembling the turbines it was found that the flanges of the 27-in. 90° cast-iron elbows connecting to them were drilled wrong, and there was not enough stock in the flanges to permit drilling new holes. Over a year passed before these could be replaced.

The angles of the penstock had to be changed and 250-ft. of additional pipe ordered, making it 600-ft. long. The pipe was 6-ft. in diameter, with four plates to the circumference. The plates were shipped drilled and were fabricated at the site of erection. There were upward of 40,000 rivets hand-driven by natives. Not only had riveters to be trained, but most of the tools had to be made. The rivets were snapped in, and the old blacksmith got fairly expert making snaps out of old churn drills and crowbars. The biggest day's work was nine hundred $\frac{3}{4}$ -in. rivets for one crew. Hammer men were changed every 20 min., and the average day's work was 300 rivets for one crew on longitudinal seams.

The transmission line had to be resurveyed and located. The iron for the steel towers was distributed by camels and elephants. It was first proposed to assemble the towers on the ground and raise them with a derrick in the usual way, using elephants instead of horses, but it was found to be safer and cheaper to build them up in position. The first few went a bit slowly until the men got used to the work. After a couple of weeks a crew of six men would erect two towers per day, at a labor cost of 48c. per tower. All the apparatus used was a light 20-ft. pole lashed to one corner angle, and two planks laid across the tower angles to stand on. The men got as expert as monkeys climbing about the towers, but not one of them knew whether a nut turned to the right or left to tighten without first trying it, nor did they ever learn. The wire was all tied in by Europeans; the natives could not be trusted to do it.

Labor was cheap, so cheap that it was very expensive. Skilled labor, native or European, was hard to get and hard to hold. Natives and Eurasians imported from India did not work out well under Afghan administration; they got the big-head and were hard to handle, as the amir would not discipline them as he did his own people. There are not many European workmen obtainable in the Far East that are useful on the construction work connected with a high-voltage plant. Of four men engaged in India, one took sick before crossing the border and another did not materialize. Of the two that came, one left inside of a year; he got a bad case of swelled head and struck for more pay, although he was getting more than he ever got before or probably ever will again. The other went on leave to India and volunteered in the Army. Two assistants that were obtained from the United States were thoroughly good and competent men. One stayed out his contract time and left in 1914; the other died of typhoid pneumonia. Of two others that came from the States, one went down to India with the body of the man that died and decided not to return. The services of the other, who was not an American citizen, were dispensed with some two years ago; he turned out to be lazy and untrustworthy, and it was easier to do any work that he was supposed to do than to do it over after him or oversee him. Of three other men engaged to come from the States, one volunteered in the air service and the others were conscripted. The services of two others were lost owing to Oriental procrastination and war conditions. The work was always undermanned, with never more than four white men on the job, and that only for a short period.

Costs of imported material were high. As stated, cement delivered was \$5 per cubic foot, wood only obtainable in pieces the size of ordinary railway sleepers, and all doors, windows and other woodwork for the buildings had to be made from these and worked up by hand. The overhead charges were enormous, owing to the high cost of labor supervision and the long time required to make the installation. The time alone spent on tinkering up and making over the hydraulic apparatus would have paid for and installed three new first-class turbines. The only men capable of doing this work were the white men getting from \$4,400 to \$4,800 a year. An efficiency expert would have gone mad before he had been on the job 48 hours. The Americans on the job used to mourn over the utter impossibility of ever conveying to anyone outside the country the difficulties that had to be contended with in making the installation. There were all the natural difficulties of the country, unskilled and unwilling

labor, the long distance to haul and pack in material, faulty hydraulic apparatus, loss and damage in transport (much of it due to poor packing and failure of shippers to follow instructions given) plus Oriental procrastination and delays due to war conditions.

The power-house installation was finally completed and the turbines started on February 5, 1917. Three hours later a door of one of the three main butterfly valve gates failed, but quick work saved the plant from being flooded. On examination, both the doors in the other two gates were found to have failed and started to buckle. It was not possible to get new gates from England or Europe, and they were ordered to be made in Calcutta. Owing to war restrictions on manufacture and transport, it was a year and five months before the new gates were received.

Plant is Finally Put in Service

The plant was again started, and transformers were filled with oil and tested and made ready for operation last October. Just at this time G. R. Baker, who had arranged to take over and operate the plant, died, and the other assistant left. The writer had obtained leave from the amir to go home before Mr. Baker fell ill, but was detained by the amir for some time after his death. It was only after considerable delay that the permit for leaving the country was formally received and the writer left in December, 1918.

The amir was the most progressive monarch that Afghanistan has had. His greatest fault was laziness and procrastination, and it might be said of him that he reigned but did not rule. He took a personal interest in the electric scheme and made many plans regarding the good it was to accomplish and the savings it would make.

His majesty the amir was assassinated February 20, 1919, near Jellalabad, where he had gone to escape the cold winter in Kabul. He intended his eldest son, Inayatulla Khan, to succeed him, but his brother Nasrulla over-awed the son and seized the throne. A third son of the late amir, Aminulla, who was in Kabul at the time of the assassination, got control of the treasury, and the guns and ammunition, got the soldiers and some of the people to declare for him and announced that he was the new amir. His uncle submitted and went to Kabul, where he was thrown into prison by the son, Aminulla.

The papers have since reported that Nasrulla has been poisoned. The people became restive under the new amir, and it is supposed he began the present war with the British in order to hold them together. The country is in a chaotic state at present, the British air forces have blown up the powder works at Kabul and pretty thoroughly bombed Jellalabad and the surrounding district. The new amir has sued for peace.

The present situation is that there is a modern hydro-electric transmission scheme in the country all ready to operate (barring the assembling of a few motors in Kabul), there is not a European left in the country, and there are no Afghans or anyone else there capable of running the plant. The machines and switchboard at the power house were covered with old tents and left under a guard. Later, the country may quiet down and somebody carry on with the operation of the plant. But, *khuda madonad* ("God knows"), as the Afghans say.—*Engineering News-Record*.

A Chinese brewery company has been established in Wusih. It is capitalized entirely with Chinese money but the machinery used comes from America. This discloses the destination of one of the many complete brewery plants recently exported from Seattle.—*North-China Daily News*.

Singapore's trade for the second quarter of the year shows imports totalling \$299,000,000 and exports amounting to \$266,000, the increases being \$66,000,000 and \$67,000 respectively. Rice was doubled in price and trebled in quantity. The figures include:—Tin ore, \$24,000,000 (a rise of \$8,000,000); rubber, \$54,000,000 (a rise of \$9,000,000); and cotton an enormous increase in quantity amounting to 250 per cent.

A New Departure in Locomotive Feedwater Heaters

THE Worthington Pump & Machinery Corporation, New York, has developed and has in service on several Mikado locomotives a combined feed pump and feedwater heater, which follows closely its marine practice. This heater is of the open

type, which is now generally used in stationary power plants and is capable of handling 60,000-lb. of feedwater per hour. The full pressure of the exhaust steam is maintained in the heater, so that feedwater temperatures above 212 deg. F. are obtained when there is sufficient exhaust steam pressure available. It is designed for convenient attachment to the side of the locomotive boiler in a similar manner to that used for air compressors.

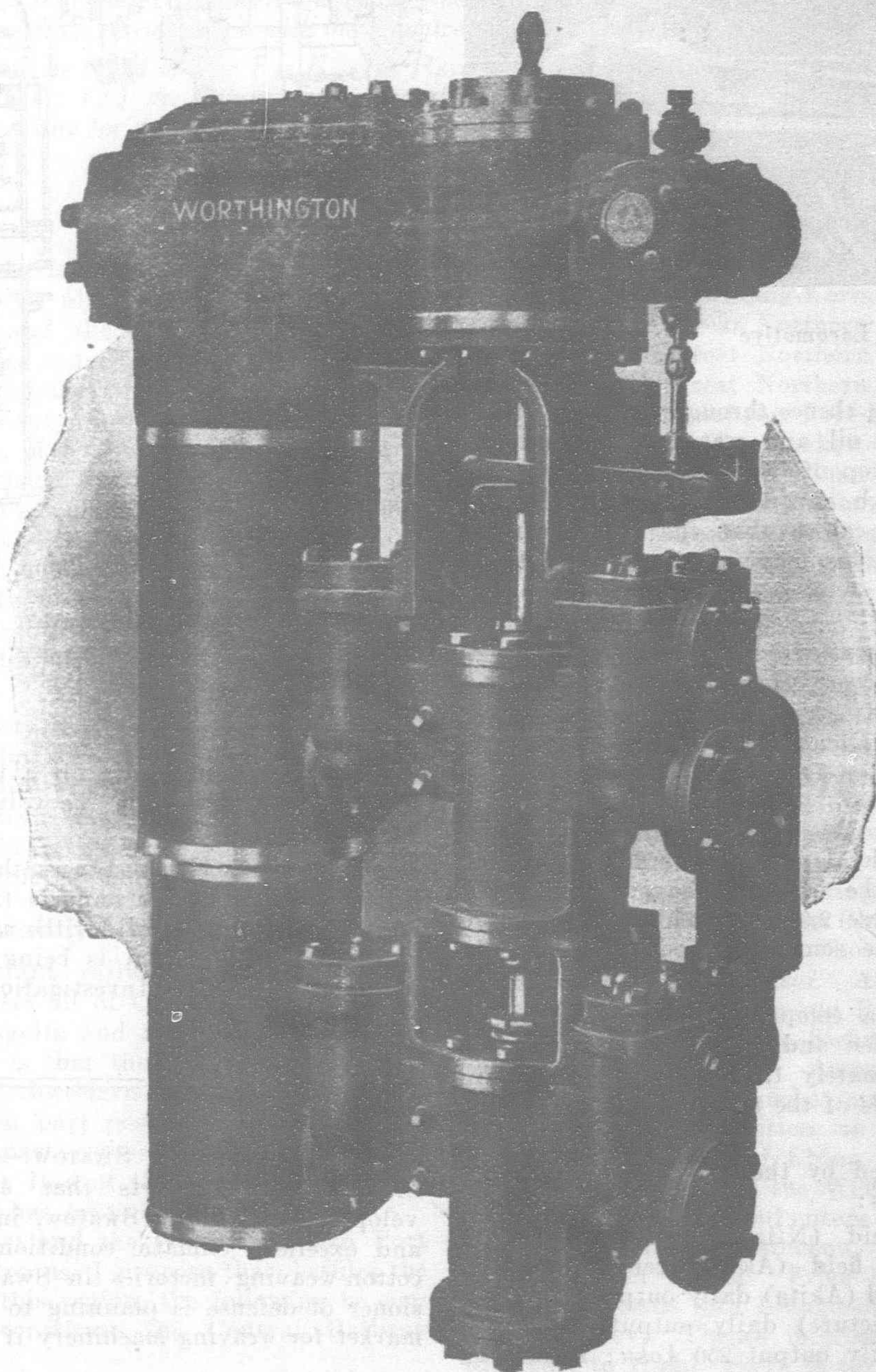
The pump is of the vertical type with the steam cylinder at the top. It has two water cylinders, the upper or cold water cylinder taking cold water from the tender and delivering it to the heater, and the lower or hot water cylinder taking the heated water from the heater and delivering it to the boiler. The cold pump cylinder has a 6½-in. bore and the hot pump cylinder a 6¼-in. bore. Each of the pistons has four packing rings composed of ¾-in. square (rockhard) piston packing. The drawing shows the pump valve assembly for both pump cylinders. The pump valves consist of three sheets of thin bronze, assembled with the smaller sheet on top and the largest on the valve seat. The pump valve seats, bolts, guards and springs are assembled before being placed in the pump. The suction valve seats are assembled with the long valve bolt projecting through the bottom of the pump chamber when the valves are in position. These valve seats make their joint on the pump chamber casting on the flat and not on the taper. The suction valves are held to their seat by the cap nuts on the lower end of the valve bolt, which is drawn up tight against two thin copper gaskets. The discharge valve seats are larger than the suction valve seats and also make their joint on the flat.

The heater is a cast iron box attached to the side of the pump by various pipe connections. The cold water that is taken from the tender by the upper water cylinder is delivered through

a port in the side of the heater at the top, where it is sprayed into the upper part of the heater. Exhaust steam from the exhaust ports of the locomotive is led into this upper part of the heater through a six-inch opening on one side of the heater close to the top. The cold water sprayed into this space condenses as much of this exhaust steam as is required to heat the water, and, mixed with the condensate, drops to the bottom of the heater, where it is taken by the lower cylinder of the pump and delivered

to the boiler. A ½-in. air vent is provided to prevent the accumulation in the heater of the air carried into it by the cold water and by the exhaust steam. A pipe from this air vent is led to a point where the air can conveniently be discharged between the tracks.

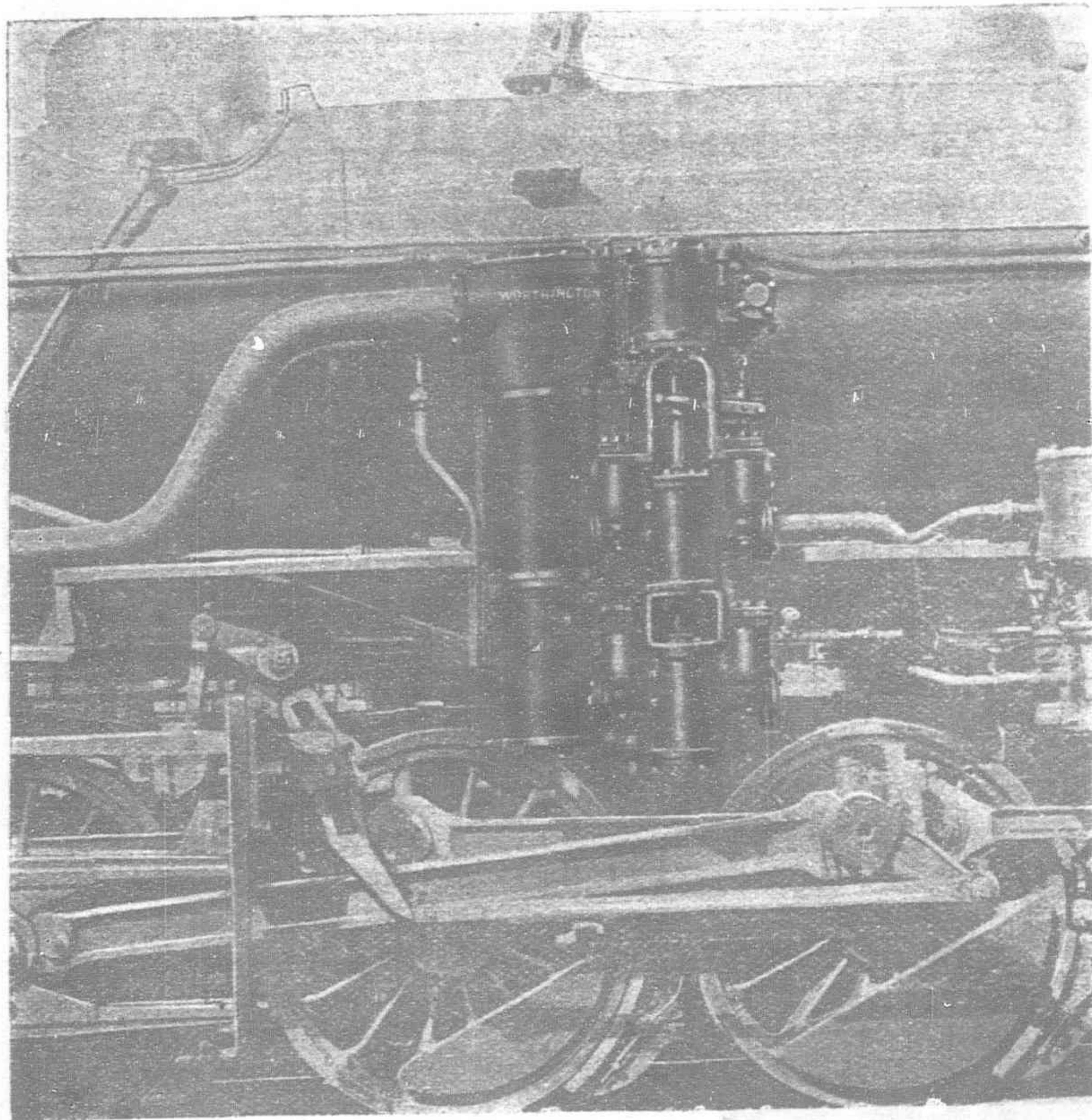
The varying amount of exhaust steam condensed in heating the water necessitates some means of regulating the water level in the heater, and this is accomplished by proportioning the pistons of the two pump cylinders so that there will be a tendency for a slight excess of water to accumulate in the heater. This excess of water will return to the upper pump cylinder where it mixes with the cold water from the tender passing through that cylinder, and is again delivered to the heater. The water level in the heater is regulated by a bucket which is free to move vertically on the central stem, and having holes in its top through which it is flooded when there is too much water in heater, causing it to sink. In sinking it uncovers holes in the central stem on which it slides, permitting this excess of water to pass through a port to one of the suction valves of the cold water pump cylinder, from which it is returned to the heater with the water that is being taken from the tender. When the water



The Feed Pump and Heater Unit

level in the heater falls the bucket is partly emptied and rises, thus covering these holes and causing the cold pump cylinder to take all its water from the tender. The height of water in the boiler is regulated by the feed pump throttle, which consists of a 1¼-in. globe valve located in the cab. The valve connections between the heater and the locomotive are shown above.

Exhaust steam is taken from the locomotive cylinders through holes cut in the back of the cylinder saddle casting and led

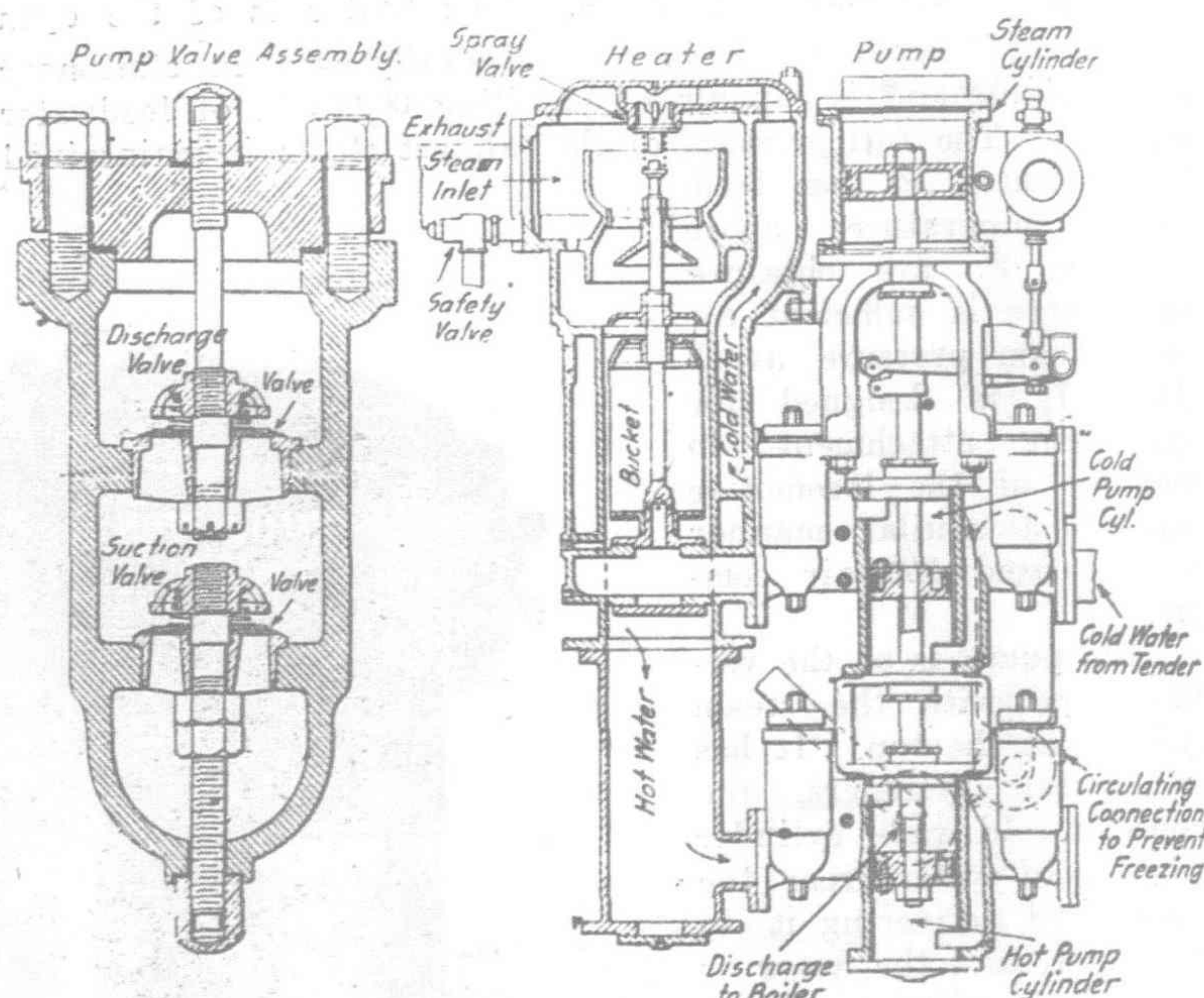


Applied to a Mikado Locomotive

through an angle stop check valve, thence through an oil separator having a continuous drip for the oil and water, and from this through the curved pipe to the top of the heater. The pump is driven by steam supplied through a pipe, which has a throttle valve conveniently located in the cab so that the pump can be operated at such speeds as conditions may require. The exhaust

steam from the pump is led into the stop check valve, passes through the oil separator and thence to the heater with the exhaust steam from the locomotive. The pipe which conducts the cold water from the tender is shown passing behind the air compressor and entering the side of the upper or cold water pump cylinder. The heated feedwater leaves the lower or hot water pump cylinder by an opening in the rear and passes through a feed line to the boiler check valve.

So far as practicable the feed pump should be run continuously while the locomotive is in operation, with the throttle open, but as the heater cannot recover any heat when there is no exhaust steam coming to it from the locomotive cylinders the injectors should be used to fill the boiler when the locomotive throttle is not open.



Section of Pump, Heater and Valve

Japanese Oil Production

ACCORDING to the latest official returns, there are 2,919 oil fields throughout Japan, the total area aggregating over 1,160,000,000 *tsubo*. Of those 2,919 oil fields, only 225 are being worked at present and the combined production is about 1,971,800 *koku* a year.

Principal fields producing a comparatively large quantity of oil are possessed by the Hoden and Nippon Oil Companies. Their yearly output is approximately 1,597,000 *koku*, the figure representing more than two-thirds of the entire oil production of that country.

The leading oil fields worked by those two companies and their daily output are as follows:

Hoden Oil Co: Koguchi field (Niigata prefecture), daily output 1,000 *koku*; Toyokawa field (Akita prefecture) daily output 800 *koku*; Michikawa field (Akita) daily output 500 *koku*; Nishiyama field (Niigata prefecture) daily output 400 *koku*; Higashiyama field (Niigata) daily output 250 *koku*; Hanekawa field (Akita) daily output 100 *koku*; other fields in Enshu, Hokkaido and Formosa.

Nippon Oil Co.: Kurokawa field (Akita) daily output 1,000 *koku*; Nishiyama field (Niigata) daily output 500 *koku*; Niitsu field (Niigata) daily output 300 *koku*; Katsurane field (Akita) daily output 100 *koku*; Onishi field (Niigata), and other fields.

The producing capacity of all other oil fields is very limited and does not contribute much to the oil industry of the Empire, the total output of all other oil fields under operation throughout the country being less than one-third of the entire production of

Japan which can hardly fill a third of the demand throughout that country, excepting the volume required for the use of the navy.

Under such circumstances the deficit or shortage of supply has to be filled by the imports from America and England. As regards the supply of oil for the use of the navy and other military purposes, the question is being discussed as one of the grave problems of the Fuel Investigation Committee and the authorities concerned.

COTTON MILLS IN SWATOW.—Acting Commercial Attaché C. C. Batchelder reports that efforts are being made to develop cotton mills in Swatow, in view of the abundance of labor and excellent climatic conditions. There are at present no cotton-weaving factories in Swatow, but as the local commissioner of defense is planning to erect one, there might be a market for weaving machinery if extended credits could be given.

COTTON MILLS IN SINKIANG.—The Peking Daily News calls attention to the efforts being made in Sinkiang Province to encourage cotton planting, as, owing to the disturbances in Russia, the people of Sinkiang Province can not depend on that country for yarn and cotton as heretofore. American cotton seed has been purchased and distributed among the farmers in Sinkiang Province. A big cotton factory has been established at Tulufan and more factories will be established in other cotton-growing centers.

A Chinese Plan for Chinese Railway Development

Dr. Sun Yat-sen's Fourth Program for the International Development of China

This is the fourth part of Dr. Sun's important contribution towards the solution of China's most urgent problem. The first program was published in *THE FAR EASTERN REVIEW* for June, 1919. It embraced (1) the construction of a great Northern port on the Gulf of Pechihli; (2) the building of a system of railways from the great Northern port to the Northwestern extremity of China; (3) the colonization of Mongolia and Turkestan; (4) the construction of canals to connect the inland waterway systems of North and Central China with the great Northern port; and (5) the development of the iron and coal fields in Shansi and the construction of an iron and steel works.

The second program appeared in *THE FAR EASTERN REVIEW* for August, 1919. It comprised (1) a great Eastern port; (2) the regulation of the Yangtze channels and embankments; (3) the construction of river ports; (4) the improvement of existing canals and waterways in connection with the Yangtze, and (5) the establishment of large cement works.

The third program will be found in *THE FAR EASTERN REVIEW* for June, 1920. It outlined (1) the construction of the Southwestern railway system; (2) the construction of coast ports and fishing harbors; and (3) the establishment of ship-building yards and the necessity for a suitable standardized type of inland water vessel.

By Dr. Sun Yat-sen, ex-President of China

PROGRAMME IV.—In my first and third programs, I have described by plans for the Northwestern Railway System and the Southwestern Railway System. The former is for the purpose of relieving the congestion of population in the coast districts and the Yangtze Valley through the colonization of the vast unpopulated territory in Mongolia and Sinkiang, as well as of developing the Great Northern Port. The latter is for the purpose of exploiting the mineral resources of Southwestern China, as well as of developing the Great Southern Port—Canton. More railroads will be needed for the adequate development of the whole country. So in this fourth program, I shall deal entirely with railroads which will complete the 100,000 miles proposed in my introductory part of this International Development Scheme. The program will be as follows:

- I. The Central Railway System.
- II. The Southeastern Railway System.
- III. The Northeastern Railway System.
- IV. The Extension of the Northwestern Railway System.
- V. The Highland Railway System.
- VI. The Establishment of Locomotive and Car Factories.

Part I.—The Central Railway System

This will be the most important railway system in China. The area which it serves comprises all of China Proper north of the Yangtze and a part of Mongolia and Sinkiang. The economic nature of this vast region is that the southeastern part is densely populated while the northwestern part is thinly populated, and that the southeastern part possesses great mineral wealth while the northwestern part possesses great potential agricultural resources. So every line of this system will surely pay as the Peking-Mukden line has proved.

With the Great Eastern Port and the Great Northern Port as termini of this system of railroads, I propose that, besides the existing and projected lines in this region, the following be constructed, all of which shall constitute the Central Railway system.

- a. The Great Eastern Port-Tarbogotai line.
- b. The Great Eastern Port-Urga line.
- c. The Great Eastern Port-Uriai line.
- d. The Nanking-Loyang line.
- e. The Nanking-Hankow line.
- f. The Sian-Tatung line.
- g. The Sian-Ninghsa line.
- h. The Sian-Hankow line.
- i. The Sian-Chungking line.
- j. The Lanchow-Chungking line.

- k. The Ansichow-Iden line.
- l. The Chochiang-Koria line.
- m. The Great Northern Port-Hami line.
- n. The Great Northern Port-Sian line.
- o. The Great Northern Port-Hankow line.
- p. The Hoangho Port-Hankow line.
- q. The Chefoo-Hankow line.
- r. The Haichow-Tsinan line.
- s. The Haichow-Hankow line.
- t. The Haichow-Nanking line.
- u. The Sinyangkang-Hankow line.
- v. The Luszekang-Nanking line.
- w. The Coast line.
- x. The Hwoshan-Kashing line.

a. The Great Eastern Port-Tarbogotai line. This line begins at the Great Eastern Port on the seaboard, and runs in a north-westerly direction to Tarbogotai on the Russian frontier, covering a distance of about 3,000 miles. If Shanghai be the Great Eastern Port, the Shanghai-Nanking Railway will form its first section. But if Chapu be chosen, then this line should skirt the Taihu Lake on the southwest through the cities of Huchow, Changhing, Liyang to Nanking, then crossing the Yangtze at a point south of Nanking, to Chiantsiao and Tingyuen. Thence, the line turns westward to Showchow and Yingshang, and enters Honan province at Sintsai. After crossing the Peking-Hankow line at Kioshan, and passing Piyang, Tanghsien, and Tengchow, it turns northwestward to Sichwan and Kingtsekwan, and enters the province of Shensi. Ascending the Tan Kiang Valley, it passes through Lungkucha and Shangchow, and crosses the Tsinling Pass to Lantien and Sian, the capital of Shensi, formerly the capital of China. From Sian, it goes westward, following the valley of the Weiho. It passes through Chowchih, Meihsien, and Paoki and enters the province of Kansu at Sancha, thence proceeding to Tsinchow, Kungchang, Titao, and Lanchow, the capital of Kansu. From Lanchow it follows the old highway which leads into Liangchow, Kanchow, Suchow, Yumen, and Ansichow. Thence it crosses the desert in a northwesterly direction to Hami, where it turns westward to Turfan. At Turfan this line meets the Northwestern Railway System and runs on the latter's track to Urumuchi and Manass where it leaves that track and proceeds northwesterly to Tarbogotai on the frontier, crossing the Shair Mountain on the way. This line runs from one end of the country to the other encountering in its entire length of 3,000 miles only four mountain passes, all of which are not impassable for they have been used from time immemorial, as trade highways of Asia.

b. The Great Eastern Port-Urga line. This line starts from the Great Eastern Port and uses the same track as line (a) as

far as Tingyuen, the second city after crossing the Yangtze River at Nanking. From Tingyuen, its own track begins and the line proceeds in a northwesterly direction to Hwaiyuan, on the Hwai River, thence to Mongcheng, Kwoyang, and Pochow. Turning more northward, it crosses the Anhwei border into Honan, and passing through Kweitch it crosses the Honan border into Shantung. After passing through Tsaohsien, Tingtao, and Tsaochow, it crosses the Hoangho and enters Chihli province. Passing through Kaichow it reenters Honan to Changteh, thence it follows the Tsingchangho Valley, in a northwesterly direction, across the Honan border into Shansi. Here the line enters the northeastern corner of the vast iron and coal field of Shansi. After entering Shansi, the line follows the river valley to Liaochow and Yicheng, and crosses the watershed into the Tungkwoshui Valley to Yutse and Taiyuan. From Taiyuan, it proceeds northwestward through another rich iron and coal field of Shansi to Kolan. Thence, it turns westward to Poate, where it crosses the Hoangho to Fuku, in the northeastern corner of Shensi. From Fuku, the line proceeds northward, cuts through the Great Wall into the Suiyuan District and crosses the Hoangho to Saratsi. From Saratsi, the line runs in a northwesterly direction across the vast prairie to Junction A of the Northwestern Trunk Line, where it joins the common track of the Dolon Nor-Urga line to Urga. This line runs from a thickly populated country at one end in Central China to the vast thinly populated and fertile regions of Central Mongolia, having a distance of about 1,300 miles from Tingyuan to Junction A.

c. The Great Eastern Port-Uriasutai line. Starting from the Great Eastern Port, this line follows line (a) as far as Tingyuan, and line (b) as far as Pochow. At Pochow, it branches off on its own track and proceeds westward across the border to Luye, in Honan. Thence it turns northwestward to Taikang, Tungsu, and Chungmow where it meets the Hailan line and runs in the same direction with it to Chengchow, Jungyang, and Szeshui. From Szeshui it crosses the Hoangho to Wenhsien, thence to Hwaiking and over the Honan border into Shansi. It now passes through Yangcheng, Chinshui, and Fowshan to Pingyang where it crosses the Fen River and proceeds to Puhsien and Taining, then westward to the border where it crosses the Hoangho into Shensi. Thence it proceeds to Yenchang, and follows the Yenshui Valley to Yen-an, Siaokwan, and Tsingpien. The running along the south side of the Great Wall, it enters Kansu, and crosses the Hoangho to Ninghsia. From Ninghsia, it proceeds northwestward across the Alashan Mountain to Tingyuaning at the edge of the desert. Thence it proceeds in a straight line northwestward to Junction B of the Northwestern Railway System, where it joins that system and runs to Uriasutai. This part of the line passes through desert and grassland both of which could be improved by irrigation. The distance of this line from Pochow to Junction B is 1,800 miles.

d. The Nanking-Loyang line. This line runs between two former capitals of China, passes through a very populous and fertile country, and taps a very rich coal field at the Loyang end. It starts from Nanking, running on the common track of line A and B and branches off at Hwaiyuan westward to Taiho. After passing Taiho, it crosses the Anhwei border into Honan. Thence it runs alongside the left bank of the Tashaho to Chowkiakow, a large commercial town. From Chowkiakow, it proceeds to Linying where it crosses the Peking-Hankow line thence to Hiangcheng and Yuchow where the rich coal field of Honan lies. After Yuchow it crosses the Sungshan watershed to Loyang where it meets the Hailan line running from east to west. This line is about 300 miles from Hwaiyuan to Loyang.

e. The Nanking-Hankow line. This line will run alongside the left bank of the Yangtzekiang, connecting with Kiukiang by a branch line. It starts on the opposite side of Nanking and goes southwest to Hochow, Wuweichow and Anking, the capital of Anhwei province. After Anking, it continues in the same direction to Susung and Hwangmei, where a branch should be projected to Siaoichikow, thence across the Yangtzekiang to Kiukiang. After Hwangmei, the line turns westward to Kwangchi, then northwestward to Kishui, and finally westward to Hankow. It covers a distance of about 350 miles through a comparatively level country.

f. Sian-Tatung line. This line starts from Sian and runs northward to Sanyuan, Yaochow, Tungkwan, Yichun, Chungpu,

Fuchow, Kanchuan, and Yen-an, where it meets the Great Eastern Port-Uriasutai line. From Yen-an, it turns northeastward to Suiteh, Michih, and Kiaochow on the right bank of the Hoangho. Thence it runs along the same bank to the junction of the Weifen River with the Hoangho (on the opposite side), where it crosses the Hoangho to the Weifen Valley and proceeds to Singhsien and Kolan, there crossing the Great Eastern Port-Urga line. From Kolan, it proceeds to Wuchai and Yangfang, where it crosses the Great Wall to Sochow and then Tatung there meeting the Peking-Suiyuan line. This line is about 600 miles long. It passes through the famous oil field in Shensi, and the northern border of the northwestern Shansi coal field. At Tatung, where it ends, it joins the Peking-Suiyuan line and through the section from Tatung to Kalgan it will connect with the future Northwestern System which will link Kalgan and Dolon Nor together.

g. The Sian-Ninghsia line. This line will start from Sian in a northwesterly direction to Kingyanghsien, Shunhwa, and Sanshui. After Sanshui, it crosses the Shensi border into Kansu at Chengning and then turns west to Ningchow. From Ningchow, it follows the Hwan Valley along the left bank of the river up to Kingyangfu and Hwanhsien, where it leaves the bank and proceeds to Tsingping, and Pingyuan, where it meets the Hwan River again and follows that valley up to the watershed. After crossing the watershed, it proceeds to Lingchow, then across the Hoangho to Ninghsia. This line covers a distance of about 400 miles and passes through a rich mineral and petroleum country.

h. The Sian-Hankow line. This is a very important line connecting the richest portion of the Hoangho Valley with the richest portion of the central of the Yangtze Valley. It starts from Sian on the track of line (a), crosses the Tsingling and descends the Tankiang Valley as far as Sichuan at this point, it branches off southward across the border into Hupeh, and following the left bank of the Han River, passes Laohokow to Fencheng, opposite Siangyang. After Fencheng, it follows continuously the same bank of the Han River to Anlu, thence proceeding in a direct line southeastward to Hanchwan and Hankow. This line is about 300 miles long.

i. The Sian-Chungking line. This line starts from Sian almost directly southward, crosses the Tsinling Mountain into the Han Valley, passes through Ningshen, Shihchuan, and Tzeyang, ascends the Jenho Valley across the southern border of Shensi into the province of Szechwan at Tachuho. Then crossing the watershed of the Tapashan into the Tapingho Valley, it follows that valley down to Suiting and Chuhsien. Thence it turns to the left side of the valley to Linshui and follows the trade road to Kiangpeh and Chungking. The entire distance of this line is about 450 miles through a very productive region and rich timber land.

j. The Lanchow-Chungking line. This line starts from Lanchow southwestward and follows the same route as line (a) as far as T'itao. Thence, it branches off and ascends the Taoho Valley across the Minshan watershed into the Heishui Valley following it down to Kiaichow and Pikow. After Pikow, it crosses the Kansu border into Szechuan and proceeds to Chaohwa, where the Heishui joins the Kialing. From Chaohwa, it follows the course of the Kialing River down to Paoning, Shunking, Hochow, and Chungking. The line is about 600 miles long, running through a very productive and rich mineral land.

k. The Ansichow-Iden line. This line passes through the fertile belt of land between the Gobi Desert and the Altyntagh Mountain. Although this strip of land is well watered by numerous mountain streams yet it is very sparsely populated, owing to the lack of means of communication. When this line is completed, this strip of land will be most valuable to Chinese colonists. The line starts from Ansichow westward to Tunhwang, and skirts the southern edge of the Lobnor Swamp to Chochiang. From Chochiang, it proceeds in the same direction via Cherchen to Iden where it connects with the terminus of the Northwestern System. With this System, it forms a continuous and direct line from the Great Eastern Port to Kashgar at the extreme west end of China. This line from Ansichow to Iden is about 800 miles in length.

l. The Chochiang-Koria Line. This line runs across the desert alongside the lower part of the Tarim River. The land on both sides of the line is well watered and will be valuable for colonization as soon as the railroad is completed. This line is

about 250 miles in length and connects with the line that runs along the northern edge of the desert. It is a short cut between fertile lands on the two sides of the desert.

m. The Great Northern Port-Hami Line. This line runs from the Great Northern Port in a northwesterly direction by way of Paoti and Siangho to Peking. From Peking it runs on the same track with the Peking-Kalgan Railway to Kalgan, where it ascends the Mongolian Plateau. Then it follows the caravan road northwestward to Chintai, Bulutai, Sessy, and Tolubulyk. From Tolubulyk, it takes a straight line westward crossing the prairie and desert of both the Inner and Outer Mongolia to Hami where it connects with the Great Eastern Port-Tarbogotai line which runs almost directly west to Urumuchi, the capital of Sinkiang. Thus, it will be the direct line from Urumuchi to Peking and the Great Northern Port. This line is about 1,500 miles in length, the greater part of which will run through arable land and so when it is completed it will form one of the most valuable railways for colonization.

n. The Great Northern Port-Sian Line. This line will run westward from the Great Northern Port to Tientsin. From here it runs southwestward to Hokien, passing through Tsinghai and Tachen. From Hokien, it runs more westerly to Shentseh, Wuki, and Chengting where it joins the Chengtai line as well as crosses the Kinhan line. From Chengting it takes the same road as the narrow gauge Chengtai line which has to be reconstructed into standard gauge so as to facilitate through trains to Taiyuan and farther on. From Taiyuan it runs southwestward to Kiaocheng, Wenshui, Fenchow, Sichow, and Taning. After Taning it turns westward and crossing the Hoangho, it turns southwestward to Yichwan, Lochwan, and Chungpu where it joins the Sian-Tatung line and runs on the same track to Sian. Its length is about 700 miles over very rich and extensive iron, coal, and petroleum fields, as well as productive agricultural lands.

o. The Great Northern Port-Hankow Line. This line starts from the Great Northern Port skirting the coast to Petang, Taku, and Chikow, thence to Yenshan and crosses the Chihli border into Shantung at Loling. From Loling, it goes to Tehping, Linyi, and Yucheng where it crosses the Tientsin-Pukow line, proceeds to Tungchang and Fanhsien, and then crosses the Hoangho to Tsaochow. After Tsaochow it passes the Shantung border into Honan, crossing the Hailan line to Suichow. From Suichow it proceeds to Taikang where it crosses line (c), then to Chenchow and Chowkiakow where it crosses line (d) and thence to Siangcheng, Sintsai, Kwangchow, and Kwangshan. After Kwangshan it crosses the boundary mountain into Hupeh, passing through Hwangan to Hankow. This line is about 700 miles long, running from the Great Northern Port to the commercial centre of central China.

p. The Hoangho Port-Hankow Line. This line starts from the Hoangho Port in a southwesterly direction to Pohsing, Sincheng, Changshan, then across Kiauchow-Tsinan line to Poshan. Thence it ascends the watershed into the Wen Valley to Taian where it crosses the Tientsin-Pukow line to Mingyang and Tsining. From Tsining it proceeds in a straight line southwestward to Pochow in Anhwei, and Sintsai in Honan. At Sintsai it joins the Great Northern Port-Hankow line to Hankow. The distance of this line from the Hoangho Port to Sintsai is about 400 miles.

q. The Chefoo-Hankow Line. This line starts at Chefoo on the northern side of the Shantung Peninsula and crosses that Peninsula to Tsimo, on the southern side, via Laiyang and Kinkiakow. From Tsimo it proceeds southwestward across the shallow mud flat at the head of Kiauchow Bay in a straight line to Chucheng. After Chucheng it crosses the watershed into the Shuho Valley to Chuchow and Ichow, then proceeds to Hsuechow where it meets the Tientsin-Pukow line and the Hailan line. From Hsuechow it runs on the same track with the Tientsin-Pukow line as far as Suchow in Anhwei, then branches off to Mengcheng and Yinchow, and crosses the border into Honan at Kwangchow, where it meets the Great Northern Port-Hankow line and proceeds together to Hankow. This line from Chefoo to Kwangchow is about 550 miles in length.

r. The Haichow-Tsinan line starts from Haichow following the Linhung River to Kwantunpu then turns westward to Yi-

chow. From Yichow it turns first northward then northwestward passing by Mongyin, Sintai to Taian. At Taian it joins the Tsinpu line and proceeds in the same line to Tsinan. This line covers, from Haichow to Tsinan, a distance about 110 miles, tapping the coal and iron fields of Southern Shantung.

s. The Haichow-Hankow Line. This line starts at Haichow in a southwesterly direction, goes to Shuyang and Sutsien, probably in the same route as the projected Hailan line. From Sutsien it proceeds to Szechow and Hwaiyuan, where it crosses the Great Eastern Port Urga and Uriasutai lines. After Hwaiyuan it goes to Showchow and Chenyangkwan, thence continuing in the same direction across the southeastern corner of Honan and the boundary mountain into Hupeh, proceeds to Macheng and Hankow, covering a distance of about 400 miles.

t. The Haichow-Nanking Line. This line goes from Haichow southward to Antung, then inclining a little south to Hwaiian. After Hwaiian it crosses the Paoying Lake (which will be reclaimed according to the regulation of the Hwaiho in Part IV, Program II) to Tienchang and Luho, thence to Nanking. Distance, about 180 miles.

u. The Sinyangkang-Hankow Line. This line starts from Sinyangkang to Yencheng, then crossing the Tasung Lake (which will be reclaimed) to Hwaiian. From Hwaiian it turns southwestward passing over the southeastern corner of the Hungtse Lake (which will also be reclaimed) to Suyi, in Anhwei. After Suyi, it crosses the Tientsin-Pukow line near Mingkwang, to Ting Yuan, where it meets the lines (b) and (c). After Tingyuan, it proceeds to Lu-an and Hwoshan, then crosses the boundary mountain into Hupeh passing through Lotien to Hankow, a distance of about 420 miles.

v. The Luszekan-Nanking Line. This line starts at Luszekan, a fishing harbor to be constructed at the extremity of the northern point of the Yangtze Estuary. From Luszekan it proceeds westward to Tungchow where it turns northwestward to Jukao, and then westward to Taichow, Yangchow, Luho, and Nanking. This line is about 200 miles long.

w. The Coast Line. This line starts at the Great Northern Port, and follows the Great Northern Port-Hankow line as far as Chikow, where it begins its own line. Keeping along the coast, it crosses the Chihli border to the Hoangho Port, in Shantung, then proceeds to Laichow where it takes a straight cut away from the coast to Chaoyuan and Chefoo, thus avoiding the projected Chefoo-Weihsien line. From Chefoo it proceeds southeastward through Ninghai to Wenteng, where one branch runs to Jungcheng and another to Shihtao. The main line turns southwestward to Haiyang and Kinkiakow, where it joins the Chefoo-Hankow line, and follows it as far as the western side of Kiauchow Bay, thence southward to Lingshanwei. From Lingshanwei the line proceeds southwestward along the coast to Jichao, and crosses the Shantung border into Kiangsu, passing Kanyu to Haichow. Thence it proceeds southeastward to Yencheng, Tungtai, Tungchow, Haimen, and Tsungming Island which will be connected with the mainland by the regulation works of Yangtze embankment. From Tsungming trains can be ferried over to Shanghai. This line from Chikow to Tsungming is about 1,000 miles in length.

x. The Hwoshan-Wuhu-Soochow-Kashing Line. This line starts from Hwoshan to Shucheng and Wuwei, then across the Yangtzekiang to Wuhu after passing through Kaoshun, Liyang, and Ihing, it crosses over the northern end of Taihu (which will be reclaimed) to Soochow, where it meets the Shanghai-Nanking line. From Soochow it turns southward to Kashing on the Shanghai-Hangchow line. This line runs over very populous and rich districts of Anhwei and Kiangsu provinces, covering a distance of about 300 miles, which will form the greater part of the shortest line from Shanghai to Hankow.

Part II.—The Southeastern Railway System

This system covers the irregular triangle which is formed by the Coast line between the Great Eastern and the Great Southern Ports, as the base, by the Yangtze River from Chungking to Shanghai, as one side, and by line (a) of the Canton-Chungking Railway as the other side, with Chungking as the apex. This triangle comprises the provinces of Chekiang, Fukien, and Kiangsi, and a part respectively of Kiangsu, Anhwei, Hupeh,

Hunan, and Kwangtung. This region is very rich in mineral and agricultural products, especially iron and coal deposits which are found everywhere. And the whole region is thickly populated. So railway construction will be very remunerative.

With the Great Eastern Port and the Great Southern Port and the second- and third-class ports that lie between the two as termini of this system of railroads, I propose that the following lines be constructed:

- a. The Great Eastern Port-Chungking Line.
- b. The Great Eastern Port-Canton Line.
- c. The Foochow-Chinkiang Line.
- d. The Foochow-Wuchang Line.
- e. The Foochow-Kweilin Line.
- f. The Wenchow-Shenchow Line.
- g. The Amoy-Kienchang Line.
- h. The Amoy-Canton Line.
- i. The Swatow-Changteh Line.
- j. The Nanking-Siuchow Line.
- k. The Nanking-Kaying Line.
- l. The Coast Line between the Great Eastern and the Great Southern Ports.
- m. The Kienchang-Yuanchow Line.

a. The Great Eastern Port-Chungking Line. This line connects the commercial centre of western China—Chungking—with the Great Eastern Port in almost a straight route south of the Yangtze River. It starts from the Great Eastern Port and goes to Hangchow, then through Linan, Changhwa, to Hweichow, in Anhwei. From Hweichow it proceeds to Siuning and Kimen, then crosses the border into Kiangsi and passing Hukow reaches Kiukiang. From Kiukiang it follows the right bank of the Yangtze, crosses the Hupeh border to Hingkwowchow and then proceeds to Tungshan and Tsungyang, where it passes over the border to Yochow in Hunan. From Yochow it takes a straight line across the Tungting Lake (which will be reclaimed) to Changteh. From Changteh it proceeds up the Liu Shui Valley, passing through Tzeli, and crossing the Hunan border to Hofeng, in Hupeh and then to Shinan and Lichwan. At Shinan a branch should be projected northeastward to Ichang, and at Lichwan another branch should be projected northwestward to Wanhshien, both on the left side of the Yangtze River. After Lichwan it crosses the Hupeh border into Szechuan, passing Shihchu to Fowchow, then passes the Wukiang and proceeds along the right side of the Yangtze River as far as (a) and (b) line of the Canton-Chungking Railway and then crosses together on the same bridge to Chungking on the other side of the river. The length of this line including branches, is about 1,200 miles.

b. The Great Eastern Port-Canton Line. This is a straight line from one first-class seaport to another. It starts from the Great Eastern Port and goes to Hangchow, then turning southwestward, follows the left bank of the Tsien Tang River through Fuyang, Tunglu to Yenchow and Chuchow. Then it proceeds across the Chekiang-Kiangsi border to Kwangsin. From Kwangsin it goes through Shangtsing and Kinki to Kienchang, then proceeds to Nanfeng, Kwangchang, and Ningtu. After Ningtu it proceeds to Yutu, Sinfeng, Lungnan, and crossing the boundary mountain of Kiangsi and Kwangtung, to Changning. Thence via Tsungfa it goes to Canton, covering a distance of about 900 miles.

c. The Foochow-Chinkiang Line. This line starts from Foochow, goes by way of Loyuan and Ningteh to Fuan, and then proceeds across the Fukien-Chekiang border to Taishun, Kingning, Yunho, and Chuchow. Thence it proceeds to Wuyi, Yiwu, Chukih, and Hangchow. After Hangchow it goes to Tehtsing and Huchow and then crosses the Chekiang border into Kiangsu. Then it proceeds by way of Ihing, Kintan, and Tanyang to Chinkiang. This line is about 550 miles in length.

d. The Foochow-Wuchang Line. This line starts from Foochow and following the left bank of the Min River and passing Shuikow and Yenping reaches Shaowu. After Shaowu, it proceeds across the Fukien border into Kiangsi and then passes through Kienchang and Fuchow to Nanchang, the capital of

Kiangsi. From Nanchang it proceeds to Hingkwow, in Hupeh, and passes on to Wuchang, the capital of Hupeh. It covers a distance of about 550 miles.

e. The Foochow-Kweilin Line. This line starts from Foochow, crosses the Min River and proceeds by way of Yungfu, Tatien, Mingyang, and Liencheng to Tingchow. Thence it crosses the Fukien-Kiangsi border to Shuikin. From Shuikin it proceeds to Yutu and Kanchow and then to Shangyin and Chungyi. After Chungyi it crosses the Kiangsi-Hunan border to Kweiyanghsien and Chenchow, where it crosses the Canton-Hankow line to Kweiyangchow. Thence it continues to Sintien, Ningyuan, and Taochow, where it meets lines (a) and (b) of the Canton-Chungking Railway. After Taochow it turns southward following the Taoho Valley to the Kwangsi border and then crossing it, proceeds to Kweilin. This line covers a distance of about 750 miles.

f. The Wenchow-Shenchow Line. This line begins from the new Wenchow Port and follows the left bank of the Wukiang as far as Tsingtien. From Tsingtien it proceeds to Chuchow and Suenping and turning westward across the Chekiang border to Yushan in Kiangsi. After Yushan it goes to Tehsing, Loping, and then skirting the southern shore of Poyang Lake goes through Yukan to Nanchang, the capital of Kiangsi. From Nanchang it proceeds to Juichow, Shangkao, and Wantsai, then crosses the Kiangsi border to Liuyang in Hunan, and Changsha, the capital of Hunan. After Changsha it goes to Ningsiang, Anhwa, and Shenchow where it connects with line (a) of the Canton-Chungking Railway, and with the Shasi-Singyi line. This line covers a distance of about 850 miles.

g. The Amoy-Kienchang Line. This line starts from the new port of Amoy and goes to Changtai, then following the Kiu-lungkiang to Changping, Ningyang, Tsingliu, and Kienning. After Kienning it proceeds across the Kiangsi border to Kienchang, where it connects with the Great Eastern Port-Canton line, the Foochow-Wuchang line, and the Kienchang-Yuanchow line. This line covers a distance of about 250 miles.

h. The Amoy-Canton Line. This line starts at the new port of Amoy, and proceeds to Changchow, Nantsing, and Siayang, where it crosses the Fukien border to Tapu, in Kwangtung. From Tapu it goes to Tsungkow, Kaying, Hinning, and Wuhwa. After Wuhwa it crosses the watershed between the Hankiang and the Tungkiang rivers to Lungchün, then following the Tungkiang down to Hoyun, after that it crosses another watershed to Lungmoon, Tsengshin, and Canton. This line covers a distance of about 400 miles.

i. The Swatow-Changteh Line. This line starts from Swatow, proceeds to Chaochow, Kaying, and then crosses the Kwangtung border to Changning in Kiangsi. From Changning it crosses the watershed into Kungkiang Valley and follows that river down to Hweichang and Kanchow. From Kanchow it proceeds to Lungchuan, Yungning, and Lienhwa, where it crosses the Kiangsi border into Hunan. After that, it proceeds to Chuchow and Changsha, the capital of Hunan. From Changsha it goes to Ningsiang, Yiyang, and Changteh where it ends, connecting with the Great Eastern Port-Chungking line, and the Shasi-Singyi line. This line covers a distance of about 650 miles.

j. The Nanking-Siuchow Line. This line starts from Nanking and runs along the right bank of the Yangtze to Taiping, Wuhu, Tungling, Chichow, and Tungliu. After Tungliu it passes over the Anhwei border into Kiangsi, at Pengtseh, and goes to Hukow. At Hukow it meets the Great Eastern Port-Chungking line and crosses the bridge together with that line to the projected Poyang Port. From the Poyang Port it runs along the west shore of the Poyang Lake through Nanking and Wucheng to Nanchang, and where it meets the Wenchow-Shenchow and Foochow-Wuchang lines. From Nanchang it proceeds up the Kan Kiang Valley, via Linkiang to Kian, where it crosses the projected Kienchang-Yuanchow line. After Kian, it proceeds to Kanchow where it crosses the Foochow-Kweilin line. Thence it goes to Nankanghsien and Nanan. After Nanan it crosses the boundary mountain, Tayuling, into Kwangtung at Nanyung, thence passes through Chihing to Siuchow, where it meets the Canton-Hankow line. This line covers a distance of about 800 miles.

(To be continued in November issue.)

FAR EASTERN IRON AND STEEL

THANKS to the good sense and experienced hand of Mr. Yeh Kung-cho, Chinese minister of communications, the Peking government seems disposed to follow the advice tendered by British and American steel experts not to attempt to impose a special Chinese standard for steel. The question came up at the railway standardization conferences, September 13-17, and it was subsequently announced that the system advocated by THE FAR EASTERN REVIEW is to be adopted. In other words, Chinese government buyers will confine their stipulations to "best British" or "best American" standards, as the case may be. Elsewhere, reference is made to the railway conferences. The steel men representing American and European interests worked in perfect harmony. The representative of *The North-China Daily News* gives the following account of the steel standardization discussion:—

"The one question taken up for which no standard specifications were agreed upon was that of steel for bridge construction. In the manufacture of such steel British and American practices differ materially. The stock British product for the manufacture of which British mills are especially equipped is a hard, high-tension steel. The American product is a softer, more resilient steel. British and American engineers always differ upon the question of whether it is better to have steel that will bend before it breaks or steel that will break before it bends. If the Chinese were to decide to adopt either formula for steel manufacture, it would mean that they would confer upon either American or British manufacturers a monopoly upon the sale of steel to China, because it would be too expensive for either to undertake to manufacture according to the other's formula to fill a Chinese order. It was anticipated that there would be a keen debate upon this matter and it was believed that the Americans would have a slight advantage through the precedent created by the Yangtze Engineering Works which uses the American formula in the manufacture of bridge steel.

"As it happens, however, there has been no dispute and bridge steel is not standardized, except that it is suggested to the Chinese that when American steel is used, presumably on an American built line, it should conform to the American official standard in quality, and that the same conditions should apply to British steel. The choice of materials in each case is left to the Ministry. This was a case in which no compromise was possible and in which any decision would have ruled either America or Great Britain out of this particular market."

* * *

JAPANESE STEEL PRODUCTION.—The Government Steel Works at Yawata disposed of 3,000 tons of steel during the first ten days of August, in contrast with 4,000 tons sold in July. It expects August orders to amount to 10,000 tons if conditions remain favorable. The Works management has announced that with the new furnace under construction, and the completion of repairs to an old one, it will be able to increase its present output of 300,000 tons to 500,000 tons. On the other hand, it is reported that, notwithstanding the recent advance of Y.9,000,000 from the Bank of Japan, the five principal steel works in Japan find themselves in an awkward financial plight, owing to accumulation of stocks. There is a general tendency to decrease production in view of the small domestic demand. The daily output of these five companies which averaged 1,000 tons in January has declined to about 600 tons.

* * *

JAPANESE IRON PRODUCTION.—The iron industry in Japan has nearly reached the self-supporting stage. In 1913, the year before the war, the output in Japan of pig-iron and steel of various kinds amounted to 240,000 and 250,000 tons

respectively, and in 1918 it had increased to 600,000 and 660,000 tons respectively. During the year from July 31, 1919, to June 30, 1920, the output reached 1,220,000 tons, comprising 900,000 tons in Japan Proper, 80,000 tons in Chosen, and 240,000 tons in Manchuria. The demand for pig-iron and steel during 1919 amounted to 430,000 and 1,300,000 tons respectively. This year the demand will, it is believed, show a diminution as a result of the economic depression. Several large private iron foundries recently obtained from certain financial sources a loan of Y.9,000,000 giving as security 100,000 tons of iron. The foundries are experiencing considerable difficulty in carrying on their business because of the high price of coal, while the Chinese authorities are restricting the shipment of iron ore to Japan. The following table shows the output by official and private iron foundries during the year ended June 31:—

	Tons.
Government Iron Foundry	400,000
Muroran Iron Foundry	150,000
Toyo Seitetsu Kaisha	150,000
Tanaka Koyan Kaisha	120,000
Nippon Seitetsu Kaisha	10,000
Nippon Seitetsu Kaisha	15,000
Other Foundries in Japan	52,000
Mitsu Bishi Seitetsu-jo, Chosen	80,000
Penchifu Iron Foundry, Manchuria	60,000
Kuramayama Iron Foundry, Manchuria	180,000

* * *

SMALL STEEL FAILURE.—The *Tokyo Seitetsu Company's* affairs have been turned over to its creditors on the company's failure to meet its liabilities. It is a steel works with a comparatively small capital.

* * *

NIPPON-HIROSHIMA STEEL AMALGAMATION.—The Nippon Steel Works at Muroran, one of the biggest ordnance works in Japan, has absorbed the Hiroshima Works which has also specialized on ordnance for the Japanese Navy. This combine has been made with a view to better serve the Japanese Navy through their unity and co-operation.

* * *

JAPANESE STEEL SUBSIDY.—The recent appropriation by the Diet for expanding the Government Steel Works is to be employed in increasing the output to 750,000 tons, an increase of 300,000 tons over the present output. Seventy million yen will be expended on the works over an estimated period of five years.

* * *

THE VALUE OF FOREIGN EXPERTS.—Mr. K. E. Humbert, of the Tata Iron and Steel Company, of India, who visited China early this year, expresses the opinion that it would be folly to invest a dollar in another plant to replace the Hanyang Ironworks. Commenting upon this opinion, *Finance and Commerce* (Shanghai) says:—"It may be remembered that these works were visited and reported upon by a member of an important Sheffield steel firm in 1903, and his advice then was to scrap the Hanyang Ironworks and to erect an entirely new works at Tayeh in the vicinity of the ore deposits. Mr. Humbert states that he came to China full of the idea of finding a location where there was plenty of water, and where suitable raw materials could be assembled for the production of iron and steel products. He had also worked out possible costs and savings in rolling rails and bridge materials in China for the many projected railways

that will be built in the future. Not only has he found that the Hanyang works have become obsolete because control has not been invested in Europeans or Americans, but that unless a new plant were built that would be so controlled and backed up with a plentiful supply of raw materials properly located in relation to the ironworks, there would only be a repetition of the Hanyang works. Mr. Humbert says that unless China is prepared to employ expert foreigners and the government, recognizing the value of such works, lends every assistance, China had better continue to buy her railway materials abroad."

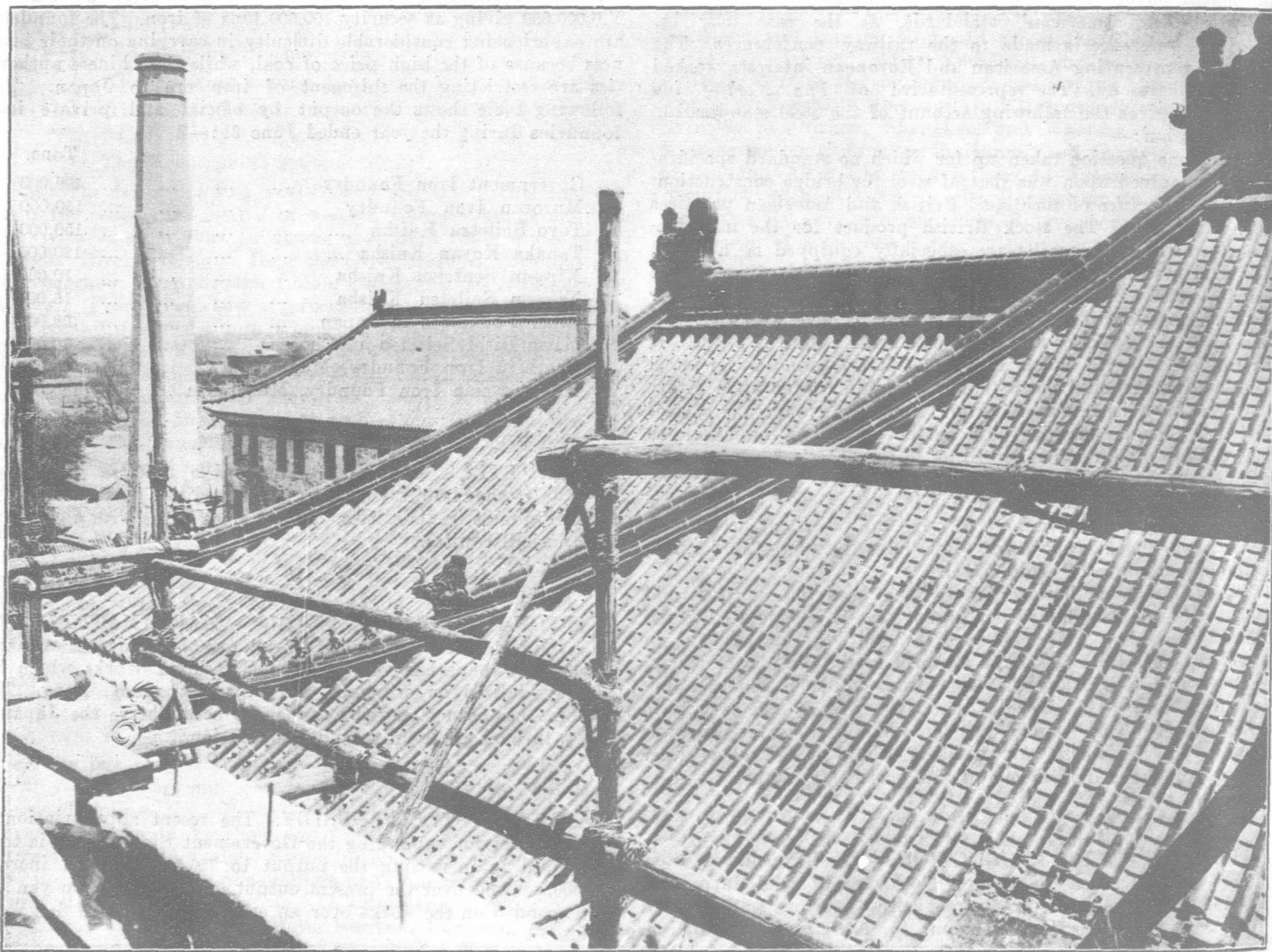
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IRON AND STEEL WORK IN INDIA.—India has already laid the basis of a steel industry in the establishment of two important and successful iron and steel works; namely, the Bengal Iron and Steel Works at Kulti, which turns out 10,000 tons of

in 1919 were in excess of \$15,000,000, virtually all of which came from the United States. The increasing demand for iron and steel products has prompted an inventory of the total iron ore deposits in the islands, which is estimated to be near 1,000,000,000 tons. Of this amount 500,000,000 tons is believed to be in Surigao province and 1,000,000 tons in Bulacan province, the remainder being scattered.

* * *

DEMAND FOR CAST-IRON PIPE IN ASIA.—There is an important demand for pipe to be used in waterworks service in most of the countries of Asia, especially in the Dutch East Indies, British India, and Japan, reports Trade Commissioner W. H. Rastall. All of these countries aspire to produce their own cast-iron pipe, but none of them have yet developed the capacity necessary to meet the entire local demand and considerable



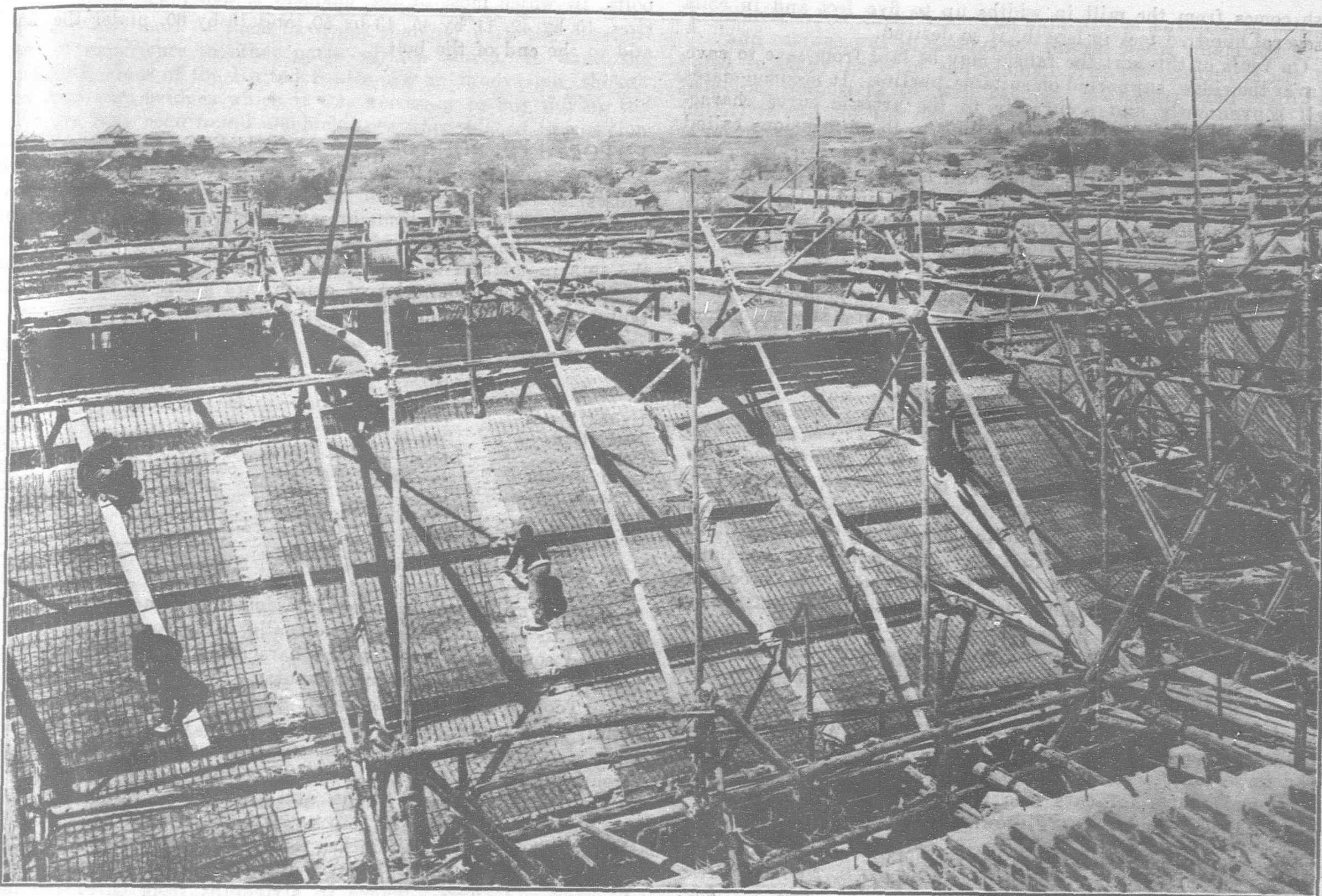
New Roofs, Peking

pig iron per month, and the Tata Iron and Steel Works at Sakchi, about 155 miles from Calcutta, which has a monthly production of about 20,000 tons, says *Commerce* (Calcutta). Most of this pig iron is converted into steel which is largely used locally in the production of rails and the smaller structural shapes, but even with the additional furnaces now under construction, which in the case of the Tata Works will more than triple its previous capacity, not more than a fraction of India's needs of iron and steel will be supplied from these two works.

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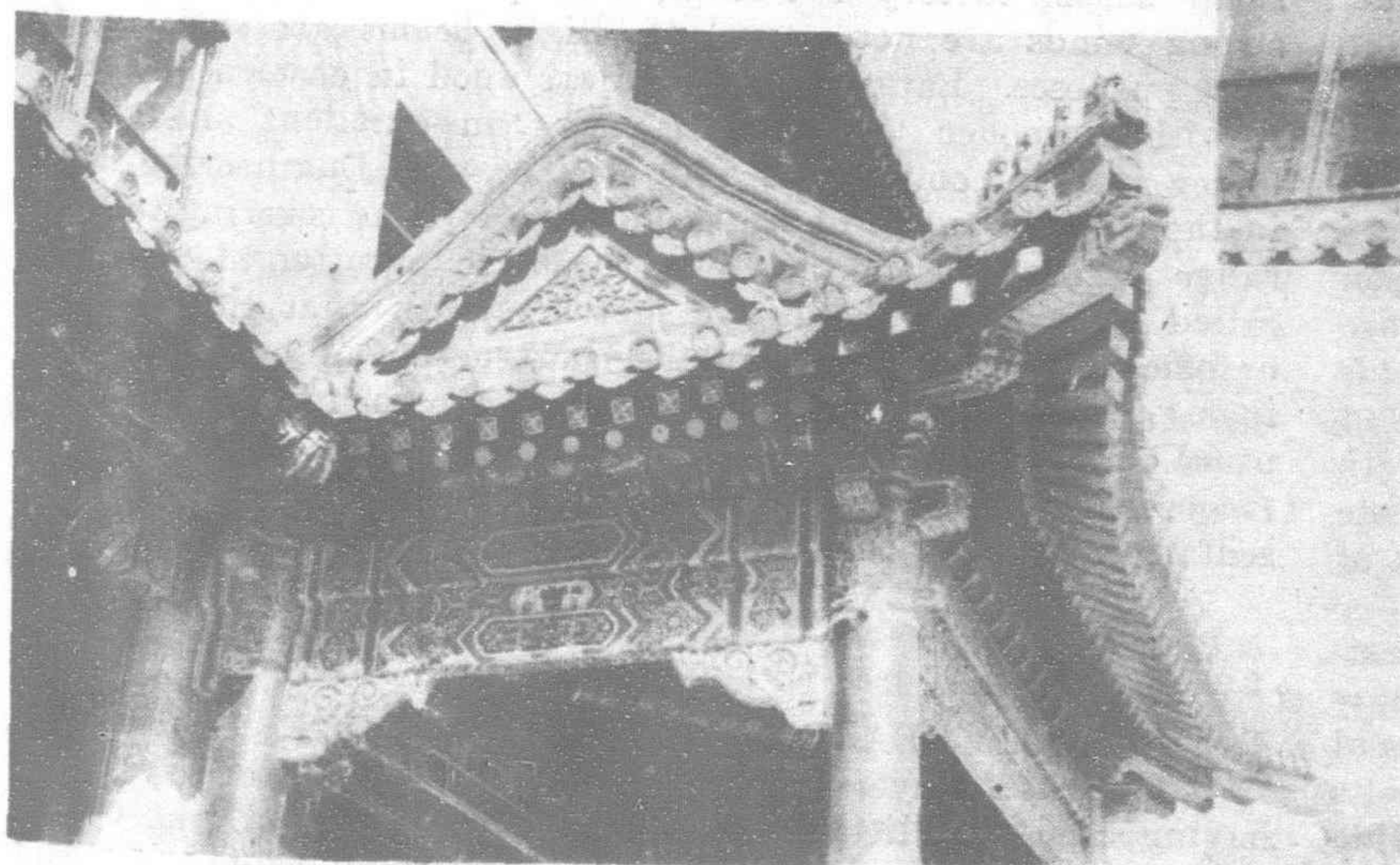
PHILIPPINE IRON AND STEEL IMPORTS.—Iron and steel and their manufactures imported into the Philippines

quantities are being imported. In this connection a clear distinction should be made between the Native States of India and British India, as such States as Baroda, Hyderabad, and Mysore buy in India as distinguished from London. American participation in this trade seems to depend largely on the prices at which the several countries competing in this trade offer their products. As the industries of none of them have yet become stabilized, no reliable price quotations can be submitted; but, if past experience can serve as a basis, production costs in America should compare favorably with those in the other countries. In 1918 America's total exports of cast-iron pipe and fittings to all countries were about 176,000,000 pounds, as compared with 114,000,000 from the United Kingdom.

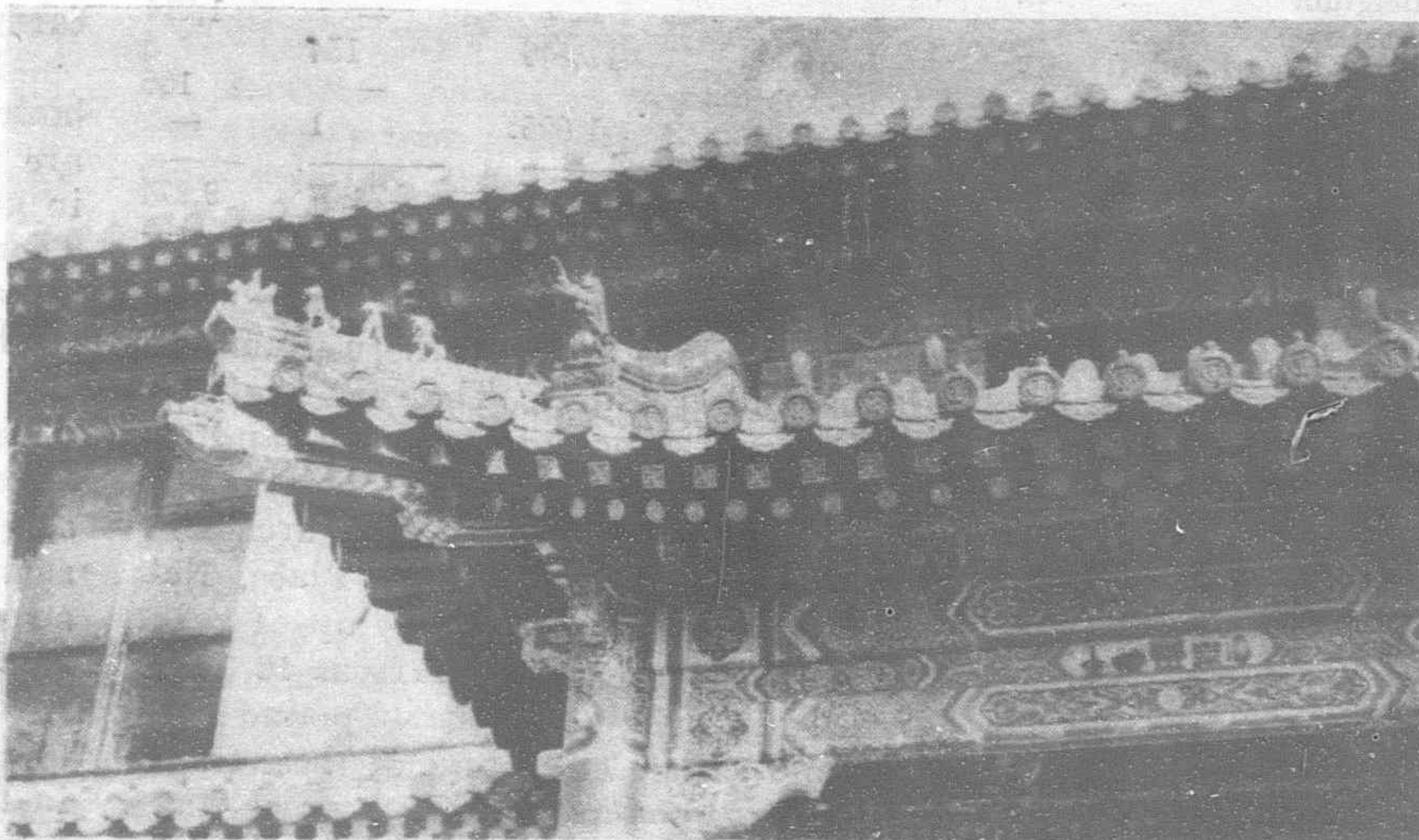


Erecting New Steel Roofs in China's Old Capital

New Roofs in Old Peking



New Roofs, Peking



ONE of the chief glories of Old Peking is her tiled roofs of yellow, blue and green. In quiet harmony with these ancient Imperial edifices the new buildings of the Rockefeller Foundation have been constructed with roofs which not only possess all the beauty of curve and color which characterize their older neighbors, but they have the added quality of solid, permanent construction. Instead of wood, the main supporting structure is a slab of reinforced concrete, and it has been found that triangle mesh—manufactured by one of the subsidiaries of the U. S. Steel Products Company—constitutes a convenient form of steel wire fabric for reinforcing such roofs. This

mesh comes from the mill in widths up to five feet and in rolls of several hundred feet in length, if so desired.

On roofs of this sort the fabric may be laid from eave to eave up over the ridge, supported on suitable purlins. It accommodates itself conveniently and accurately to the artistic curve characteristic of a Chinese roof and according to the dimensions called for on the architect's drawings.

The color scheme of the corbels and beams which support the green tiles at the eaves of the roof is also similar to the old temple and palace construction in Peking. When seen near at hand it is most striking in appearance, with a veritable rainbow of diverse shades.

The accompanying photographs will be a reminder to many of our readers of their enthusiasm when they first saw the golden roofs and pink walls of Peking; for in the distance may be seen the series of monumental gateways leading towards the Forbidden City and culminating at Coal Hill.

* * *

IRON AND STEEL TRADE OF DUTCH EAST INDIES.

(From U.S. Commerce Reports).—A survey of the iron and steel trade of the Dutch East Indies shows that trade conditions in that colony were normal in 1913, prices were low, and much new construction was under way. In 1917 the prices, according to the American market, had touched a point 260 per cent. above the high point of 1913. After the beginning of the war construction in Java dropped to the minimum of necessity and plans for development have since been held in abeyance. In 1918 there was an increase in the imports as shown by the quantities recorded. In that year the United States supplied a large percentage of the total and Australia appeared for the first time as an important factor in this trade. The imports of rails, fishplates, and plates for cars into the Dutch East Indies for the years 1913, 1917, and 1918 are shown below.

Countries.	1913 Guilders.	1917 Metric tons.	1918 Metric tons.
United States	—	6,036	7,828
Netherlands	5,612,587	1,017	58
Great Britain	107,961	19	3
Germany	131,403	—	—
Belgium	679,816	—	—
Austria	—	—	1,214
Singapore	11,349	134	6
Japan	—	—	165
All other countries	1,095	1	—
Total	6,544,211	7,207	9,274

Rails are needed by the State Railways and for many tram lines throughout Java and in Madura and northern Sumatra. Steel ties are used for switches and crossings. The rails are from 18 to 33.4 kilos per meter (36.28 to 67.33 pounds per yard) and are generally ordered in 9-meter (1 meter=1.093 yards) lengths, 10 per cent. shorts. An order was recently placed by the Purchasing Bureau of the Netherlands Government, 17 Battery Place, New York City, for 150,000 tons of material, mostly made up of rails. Sugar estates and other plantations use rails of from 16 to 25 pounds to the yard in lengths of 5 meters for the 16-pound rails and 7 meters for 18 and 20 pound rails. The gauge of these tracks varies. Sometimes they are laid on wooden ties and at other times are made up into portable sections with steel ties. No variation in length is permitted in orders for these buyers. Steel ties are bought in 5.6-meter lengths. Mines use rails of 8 to 16 pounds to the yard, with the bulk of the business in 10 and 12 pound weights. All are in 5-meter lengths and no variation in length is allowed. As the "goods wagons" (freight cars) of the State Railways are built in lengths of only 5 and 5½ meters, rails of longer lengths require an extra charge for transportation.

Clip bolts required for plantation roads in central and eastern Java are 11 by 30 and 11 by 31 in millimeter (1 millimeter=0.039 inch) sizes, the length being measured from under the head to the end of the bolt. As it is also the custom in specifying bolts to give the lengths of the bolt from under the head to the inside of the nut, the nut to be flush with the bolt end, it is safer, in quoting prices and lengths, to state the system used. Fishplate

bolts, in which most of the business is done, are in millimeter sizes, 10 by 42, 11 by 45, 13 by 50, and 13 by 60, under the head and to the end of the bolt.

* * *

IMPORTS OF ROUNDS, FLATS, SHEETS, AND PLATES.—

The import of bars, flats, sheets, and plates into the Dutch East Indies increased from 25,001 metric tons in 1917 to 27,024 metric tons in 1918. These amounts are arbitrarily valued at 500 guilders per ton by the Division of Imports and Exports. The value of the 1913 imports of these items and the quantity of the 1917 and 1918 imports, by countries of origin, are given in the following table:

Countries.	1913 Guilders.	1917 Metric tons.	1918 Metric tons.
United States	—	18,742	15,579
Netherlands	2,496,065	975	100
Germany	579,520	—	267
Great Britain	691,964	918	138
Australia	—	587	4,663
Japan	—	974	2,076
All other countries	1,353,585	2,805	4,201
Total	5,121,134	25,001	27,024

Round mild steel is in general demand from three-sixteenths up to 2 inches and importers normally carry considerable stocks. Twisted squares and corrugated bars are not stocked, the engineers there claiming that no advantage would be gained in their use. Tool, drill, and other high grades of steel are not in demand, tools being made by native and Chinese blacksmiths. Special orders are given by machine shops for a quick cutting steel. There is a general demand for spring steel from native wagon makers, machine shops, and government railways.

Flats and squares for stock are carried in sizes from one-fourth to 1 inch by 1 to 5 inches for the general trade. There is a fair demand for ship plates, principally from the government shipyards. Gauges advance in sixteenths from three-sixteenths to nine-sixteenths and in eighths from five-eighths to 1 inch, with the bulk of the business in seven-sixteenths. Widths run from 3 to 6 feet and lengths from 10 to 30 feet. One-fourth inch ship plates are used for railway freight cars and dealers usually carry large stocks.

No boilers are built in that colony, so the small demand for boiler plate is for repair work. Plates for tanks of mild steel are imported in large quantities, the bulk of the business being in gauges of three-sixteenths, one-fourth, and three-eighths inches. There is a steady demand for installations in vegetable and mineral plants and for repairs. The large bulk of the business in sheets is 28 gauge, galvanized, in sizes of 3 by 6 and 3 by 8 feet.

Beams of structural sizes are used very little in that colony, it being claimed that it is cheaper to build up the desired strength from small shapes and flat iron, with the cheap local labor. Small shapes are needed in large quantities for building warehouses, sugar sheds, factory buildings, and plantation buildings. As strong winds are not prevalent, light beams are sufficient for most purposes. Large forests of djati wood in eastern Java have furnished wooden beams which make an excellent and durable under roof, in competition with steel beams. Engineering houses in the colony have built up standardized plans covering the wide range of construction, having become so accustomed to the so-called German sizes and the metric system that little thought or office work is involved in the construction of ordinary buildings. The use of American profiles on the inch basis entails unusual office work, but the shortage of steel over a long period has reconciled engineers to the use of American products and representatives of American mills are booking large orders.

* * *

LARGE DECREASE SHOWN IN BRIDGE IMPORTS.—

The chief buyers of bridges are the State Railways, there having been very little development in railway building by privately owned roads during the war. All small bridges are built in the machine shops in the various ports, the general practice

being to use light materials. Bridge plans were worked out many years ago and most of them have not changed with the developments of experience in other parts of the world, so that the standard bridges of the United States are an innovation, though some American bridges which it was necessary to buy during the war years have been found much cheaper when placed in position than the standard bridges of the State Railways.

The imports of bridges and parts were valued at 852,460 guilders in 1913, 711,303 guilders in 1917, and 25,118 guilders in 1918. The values of the imports from the various countries for 1913 and the quantities in kilos (1 kilo=2.2046 pounds) for 1917 and 1918 were as follows:

Countries.	1913 Guilders.	1917 Kilos.	1918 Kilos.
United States	1,609	406,737	15,154
Netherlands	786,445	1,601,847	59,018
Great Britain	20,100	—	—
Germany	9,524	—	—
Belgium	13,660	—	—
All other countries	21,122	—	—
Total	852,460	2,008,584	74,172

* * *

GALVANIZED IRON ROOFING AND CEILING.—Corrugated iron for Java and Madura is almost invariably in 24 gauge; 26 inches wide; with eight 3-inch corrugations, approximately five-eighths-inch in depth. Lengths run from 5 to 10 feet, with the bulk of the business in 6 to 8 feet lengths. In Sumatra the demand is generally for 28 gauge, and sometimes for 31 and 32 gauge, with the other dimensions the same as for Java. Packing is invariably in skeleton cases (crates) in approximately 4 picul (1 picul=136 pounds) weights. The trade in corrugated roofing will undoubtedly increase as it becomes easier to get steel shapes for building. Much construction has been postponed during the war, and such roofing as came in was chiefly for maintaining buildings already constructed in good condition and for necessary new building. An American roofing composition is now on the market which will probably offer some competition to the roofing iron provided it is found able to withstand the heavy tropical rainstorms.

During the years 1913, 1917, and 1918 the following quantities of corrugated galvanized iron were imported into the Dutch East Indies:—

Countries.	1913 Guilders.	1917 Metric tons.	1918 Metric tons.
United States	415	3,430	2,798
Netherlands	3,209	334	—
Great Britain	23,139	849	—
British India, British Borneo, Penang, and Singapore	1,664	61	30
Philippine Islands	—	45	—
Japan	—	14	219
Germany	228	—	—
Belgium	174	—	—
All other countries	28	16	15
Total	28,857	4,749	3,062

Galvanized ceiling is used in the construction of the better class of houses, but it finds competition in the so-called asbestos board, which offers some degree of insulation against the extreme heat of the Tropics. Imports of galvanized ceiling into the Dutch East Indies during the years 1913, 1917, and 1918 were as follows:

Countries.	1913 Guilders.	1917 Metric tons.	1918 Metric tons.
United States	125	60	13
Netherlands	123	—	—
Great Britain	277	—	—
Germany	14	—	—
Australia	94	201	106
All other countries	—	—	2
Total	533	261	121

As there is a great shortage of dwelling houses in the cities of Java and in Medan, Sumatra, a revival in home building would seem to be pending.

TUBING AND CASING.—The bulk of the business in tubings and casings was in casings for the oil wells, which are being bored in many parts of the colony. The oil companies are the principal importers of well casings, machinery and hardware importers call for the other pipings. High pressure steam pipe is very little used in the Dutch East Indies, ordinary butt and lap welded black pipe being used for most purposes, in sizes from one-quarter inch to six inches in diameter, with the bulk of the business under three inches. The English or German threads are used. There is little call for galvanized pipe. Though the pipe lines of the mineral companies are nearing completion, the vegetable and mineral oil industries promise development that will create a steady demand for some time. Sugar mills require a steady supply of pipe for steam and for conveying the sirups, and plantation factories use small quantities. Plans under consideration for the building of waterworks will bring about a big demand for minor distributing systems.

Imports of well casings and other piping, values for 1913 and quantities for 1917 and 1918, are given in the following table. The imports were valued at 4,363,000 guilders and 4,602,000 guilders in 1917 and 1918, respectively:—

Countries.	1913 Guilders.	1917 Metric tons.	1918 Metric tons.
United States	198,000	9,936	8,336
Netherlands	2,951,000	856	866
Great Britain	233,000	936	2,464
Singapore, Penang, Hongkong, etc.	89,000	724	530
Germany	1,028,000	—	—
Italy	—	—	8
Japan	—	764	319
Australia	—	—	164
All other countries	33,000	6	99
Total	4,532,000	13,222	12,785

* * *

CONTROVERSY OVER STEEL PRICES.—In spite of the fact that the second instalment of ships in exchange for steel had already been completed, and 80 per cent. of the difference in price received, there are still varying opinions between America and Japan regarding the adjustment of the price of the iron supplied. On the 10th instant a telegram received by Messrs. Suzuki & Co., Kobe, from their New York Branch, reported that the matter had been settled by the Shipping Board in conformity with the Japanese representations. The trouble was that notwithstanding that the contract for the steel in exchange had originally been made at \$67.20 per ton (the American official quotation), all the cargoes of steel since the commencement of last year were invoiced at more than that price, and this naturally created a difference of opinion between the contractors. To an inquiry concerning the matter dispatched by the Japanese parties interested, the American authorities replied that it was only natural that the contract price being a basic price some extras should be charged according to the size or the thickness of the "exchange" steel sheets in addition to the fluctuations of freight, etc., in consequence. The Kokankai, which regards the price as a flat rate, filed a protest against the above explanation stating that it was unfair to charge extras upon steel only while the "exchange" ships offered were strictly at \$175 per ton irrespective of the difference of speed, tonnage, etc., and moreover commercial custom in Japan always takes any prices on a contract form as a flat price. The matter had since then been under the investigation of the Legal Department of the Shipping Board. Against 123,000 tons or Y.16,531,200 worth of iron due in the second part of the contract "exchange" ships amounting to 246,000 tons representing Y.86,100,000, had been supplied. There is a difference of Y.69,569,000 receivable to Japan, 20 per cent. of which still remains unsettled. It is believed that the above resolution resulted in a gain of about Y.1,250,000 to Japan.—*Japan Chronicle*.

Engineering, Financial, Industrial and Commercial News

RAILWAYS, NEW LINES, SUPPLIES, ETC

West China Railway Projects.—The Peking Official Gazette says that Yeh Kung-cho, the minister of communications, has instructed the Chinese director of the Canton-Hankow-Szechuan Railway to consider and report as to whether the Sinyangchow-Chengtou and Tatungfu-Chengtou lines should be joined up with the Hankow-Szechuan line.

The Gazette adds: "The Canton-Hankow-Szechuan Railway is the most important of the southwestern lines and, as Chinese industry depends on railway communications for development, it is most regrettable that this line has not been completed. The great war prevented the flotation of bonds but the war is now ended and the line must be completed. If the international banking group cannot carry out its original obligation, other means must be found, for further postponement would be most injurious to Chinese interests."

Chinese Railway Standardization.—The third session of the commission of Chinese and foreign engineers considering plans for the standardization of Chinese government railways was held in Peking, September 13-17. Agreement was reached covering the adoption of the metric system, specifications for a standard gauge, clearance, measurements and weights for cars, brakes, couplings and curves of permanent way and some of the requirements for locomotives.

Chinese Railway Costs and Accounts.—The following is the text of a recent statement by the Chinese minister of communications, Mr. Yeh Kung-cho:—"Most of the railways of China have been constructed by foreign loans and the expenditures and receipts are naturally enormous. In order to establish confidence along this branch of development, it is necessary that the accounts be strictly watched. During the eight years of the Republic of China, the investment in railways is estimated at approximately \$420,000,000, up to the end of the 8th year; the receipts are estimated at approximately \$83,000,000, and the expenditures at approximately \$38,000,000. Considering that the amount of expenditure is so enormous, any discrepancy or any error in the accounting departments would reflect on the bookkeeping system. In view of the importance of this line of work, the present minister, who was director of the Bureau of Railways in the 2nd year of the Republic of China, organized a railway commission, and Chinese and foreign accountants and experts were employed in that commission, with the object of adopting systems as were then existing in Europe and America, for the purpose of unifying the accounting in all the railways in the country. In June of the 4th year of the Republic the first report was issued and published for the information of both the Chinese and foreign public. The results at that time were highly satisfactory to both Chinese and foreigners. Many years have since passed and it is felt that the accounting systems installed at that time may not be kept up to date. It is hereby ordered that all railway directors, chiefs of departments and other employees observe the rules and regulations with respect to economy in the administration of the accounts, and that all receipts and expenditures be accounted for

strictly so as to preserve China's credit both at home and abroad."

New Central Station, Peking.—Mr. Yeh Kung-cho is resolved to carry out his old scheme of constructing a Central Station at Peking for the Peking-Mukden, the Peking-Hankow and the Peking-Suiyang railways, and has instructed the Vice-Minister and the Chief of the Railway Department to furnish plans for carrying out a survey as soon as possible.

Yeh Kung-cho has also instructed his subordinates to provide plans of estimates for a new bridge across the Yellow River on the Peihan line.

Peking-Suiyuan R. R. Extension.—The Railway Board has decided to build an extension to the Suiyuan railway and is raising funds by means of domestic bonds, and not by seeking a foreign loan as reported.

Kowloon-Canton Earnings.—During 1919, the gross earnings of the Kowloon-Canton Railway were \$490,092.77, the expenditure \$417,032.14, and the net revenue, \$73,060.63.

Nationalization of Dai Nippon Tramway.—The Japanese Railway Department has completed the purchase of the Atami-Odawara tramway paralleling the new Atami section of the government railway under construction. The sum of Y.800,000 was paid for the line and rolling stock.

New Freight Station, Singapore.—The Federated Malay States government has approved of a grant of \$95,000 for the purchase from the Singapore Harbor Board by the Federated Malay States Railway of a tract of land for the purpose of extending the freight station at Tanjong Pagar railway station, Singapore.

New Japanese Railway Equipment.—The Railway Department has obtained a credit of Y.45,000,000 for new rolling stock which will be expended in the construction of 190 locomotives, 457 passenger cars, 50 electric and 1,528 freight cars.

Locomotive Construction, Japan.—The Matsukado Dockyard located at Yamaguchi-ken, one of the Kuhara enterprises will commence the manufacture of locomotives. It is expected that twelve engines will be turned out in the course of the first year. Hitherto only the Kawasaki Dockyard and the Osaka company have engaged in private locomotive construction in Japan, and the new venture is being followed with interest.

Chosen Central Railway Bonds.—The shareholders of this company have approved the flotation of a bond issue of Y.3,500,000 on the security of the physical properties of the line, in order to raise capital to proceed with.

Narita Railway Nationalized, Japan.—The Narita railroad, owned by the Narita Railroad Company, founded over ten years ago, was nationalized on August 31. The Narita-Sakura line business of the company will be handed over to the Railway Department.

Elevation of Railway, Kobe.—It is proposed by the railway authorities to elevate the main line in the city of Kobe for which between Y.20,000,000 and Y.30,000,000 will be required.

Tientsin - Pukow Railway.—The Tientsin-Pukow Railway will construct a train ferry at Pukow, the cost of the project, including railway approaches, is estimated at \$3,500,000.

Railway Construction in Johore, Malay Peninsula.—Upon completion of the railways now being constructed in Johore, Malay Peninsula, surprising results in the industrial progress may be looked for, advises Consul-General Edwin N. Gunsaulus, Singapore, Straits Settlements. The road from Kluang to Mersing, which will probably be completed next year, will open up communication with the east coast and the mining districts of Jamaluang and Mersing, while the completion of the roads on the west coast will do much to develop the country west of the railway.

American Locomotives for China.—An American firm built 62 locomotives for shipment to China last year. Among the purchasers were the Hupeh Government Mining Bureau, the Canton-Samshui Railway, the Peking-Hankow Railway and the Peking-Mukden Railway. Another American firm is reported to have closed contracts for 20 Mikado type freight locomotives for use on the Tientsin-Pukow Railway.—*Finance and Commerce.*

Korean Railway Extensions.—Figures up to December 31, 1919, show a total railway mileage of 1,153 miles. During December three new sections of the Korean railways were opened: from Genzan-Kanko, a distance of 64 miles; from Seishin to Ranam, a distance of 5 miles; and from Seishin to Kwainci, a distance of 36 miles, which open up territory in the northern part of the peninsula which has up to this time been very inaccessible and should make for additional activity in that region. The year 1919 witnessed a great interest in the matter of light railways and a number of new private companies were organized, so that during the year the aggregate mileage of lines sanctioned by the government reached 1,085 miles and the end of the year saw lines extending over 1,500 miles in length in course of construction.

The Shimonoseki Tunnel.—According to the *Asahi* the scheme of laying a tube under the Shimonoseki Straits is making progress. The journal reports that the work will be commenced from November next. It is also reported that several English, American and French experts have applied through their Embassies to be allowed to contract for the work.

In connection with this Mr. K. Hirai, the head expert for the undertaking, is quoted by the journal as stating that the work may be done without foreign aid, though it is the first work of the kind done in Japan. The tube will be laid by the ordinary means employed in such constructions, some 100 feet below the surface. The sections will be 22 feet in diameter and 2 feet in length and it is calculated that some 13,200 sections will be required to cover the distance.

S.M.R. Extensions.—The *Asahi* quotes Mr. R. Nomura, the President of the South Manchuria

Your Money's Idle Hours

Because of the increased burden which war and resulting economic disarrangements have placed upon the dollar quicker turn-over of working capital is a most important factor in the financing of every business.

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Railway, as stating that the increase of Y.440,000,000 in the capital of the company will be taken up equally by the government and the public. It solely depends upon the resolution of the general meeting in what form the government will make investment, and whether it will give shares in the Korean Railway or other certificates of payment. As to the general undertakings in this financial year, the prolongation of the lines will be put under construction before long with a budget allotment of Y.6,000,000, an understanding with the Chinese government having already been come to. The extension on the Dairen pier is almost completed and this will be followed by another extension shortly, while the cable between Dairen and Nagasaki, materials of which have been ordered in England, will be laid at a budgetted cost of Y.2,000,000.

The Tractor Train as a Freight Carrier.—*Holland's East India* describes the construction of a tractor train and its use as a freight carrier in Java. Plans are under way for the establishment of a tractor-train service from and to Soerabaya Harbor. The tractor train consists of a motor engine, the bearing power of which has been converted into hauling power by an ingeniously constructed spring arrangement on the double rear axle to the seat of the motor driver. Immediately appended to same is a two-wheeled trailer, which follows closely all the movements of the tractor, being attached by a movable roller connection on a large round sheave on the top of the double rear axle. Every detail of its construction has been so worked out that a tractor train of six trailers can carry a large amount of tonnage at a great saving of street space.

ELECTRIC LIGHTING, TRACTION. POWER, ETC.

Vladivostok Tramways.—The need for money in Vladivostok is so great that the local government has decided to sell the right of running the tramways in the city, the electric trains and the lighting to private enterprises. The measure is very unpopular and would never have been even thought of by government in the past. It is stated that Mr. Kogan of Vladivostok, and the Mitsubishi firm are bidding for the concession of running the electric conveyances. The Mitsubishi firm has, it is said, received the approval of the Japanese government to embark on the scheme, and has already sent its representatives to Vladivostok.

Huge Hydro-Electric Combine, Japan.—The Nippon Water Power Company, the Osaka Power Transmission Company and the Kiso Electric Company, the three leading power companies in Osaka has at last reached an understanding for the purpose of amalgamating. The Nippon Water Power Company will deliver 144,000 shares to the Kiso Company, while the Osaka Power Transmission will join unconditionally. The Kiso Company will also obtain 228,000 shares in the new company. As soon as the preliminary arrangements are carried out a new company will be organized and capitalized at Y.100,000,000. This deal was carried through by Mr. Kunisuke Ogazaki of the Seiyukai political party, who will select all directors and auditors. The president will be nominated by the Kiso Company, and the vice-president and one managing director by the Nippon Water Power Company. The Osaka Company rejected the Municipality's offer to purchase its plant and business and will improve its financial condition by the increase of its authorized capital. It is proposed that the combined companies amalgamate two other power companies, the Hakusan Water Power Company and the Japan Electric Power Company, which will be the complete merger of

big power supply companies in the Western part of the main island of Japan, to be capitalized at Y.100,000,000.

Hydro-Electric Company Dissolves.—The Hokkaido Water Power Company, recently promoted with the payment of the first instalment on its stock capital, has decided to terminate its affairs and pay back the stock capital.

Hydro-Electric Power for Korea.—A hydro-electric power plant on a large scale with the object of utilizing the waters of the River Hwangsu-won, a tributary of the River Yalu in South Hamkyeng (Kankyo) Province, is planned by the Oriental Development Company. The capital to be raised will be Y.10,000,000. The Province of South Hamkyeng is rich in timber and minerals, and it is anticipated that there will be a large demand for electric power. It is calculated that the installation will take three years. The principal items of expenditure will be the power station, Y.3,153,850; power transmission plant, Y.975,000, and power distribution plant, Y.366,435.

Hydro-Electric Development in Ceylon.—The Public Works Department, Ceylon, is again investigating the island's hydro-electric resources, which was delayed by the war, and it is expected arrangements will proceed rapidly for the early initiation of the proposed electrification of the island's industries and the partial transformation of the transportation systems from steam to electricity, including the extension and development of the use of electricity for domestic purposes in Colombo and other centres of population. Although the standard American frequency of 60 cycles has been prevalently employed in eastern countries during recent years, the electrical adviser to the government of India, who was lent to the government of Ceylon to study the above projects, strongly recommends the British standard of 50 cycles, and states in his report that it is confidently anticipated that the consulting engineers employed to draw up the specifications will be able to place the order for the equipment within the British Empire.

Osaka Tramway Loan.—The Electric Railway Department of the Osaka Municipal government is desirous of raising funds for repairs and extensions and has opened negotiations with the seven principal banks in Osaka for a loan of Y.10,000,000 with interest at 9 per cent. per annum, bonds to be redeemed by drawing within seven years.

Tramway Extension, Japan.—The Tamagawa Electric Railway Company has been granted permission to build a new section between Tamagawamura and Kinuta-mura, villages on the Tama River near Tokyo.

New Electric Tramway, Japan.—The Kanaiwa Electric Tramway Company has been granted a charter by the Railway Department for the construction of an electric tramway between Ono and Kanaiwa, Ishikawa Prefecture.

Fukui-Takofu, Mito-Isohama Tramway, Japan.—The Railway Department has granted charters to the Fukutake Electric Tramway Company for the construction of a line 11.60 miles in length between the city of Fukui and Takefu, and to the Mito Kaihin Electric Tramway Company for the construction of a line between the city of Mito and Isohama.

Nagoya-Seto Tramway, Japan.—The Seto Electric Railway Company has been granted a charter for the construction of a line between Nagoya and Seto, an important porcelain centre. The line is to be 13 miles long.

Nagasaki-Motegi Railway, Japan.—The Motegi Automotive Railway Company has been granted a charter for a line between Nagasaki and Motegi, a distance of 4.08 miles.

Toshin Electric Bonds.—The Toshin Electric Power Company has issued new debentures to the amount of Y.1,500,000, secured by mortgage on the company's plants, through the Industrial Bank of Japan. The net price is 97, interest 8 per cent. per annum. Refund within two years beginning after a year from the date of issue.

Tokyo Tramway Appropriation.—The Tokyo Municipal Council approved, on September 8, the estimates calling for the expenditure of Y.144,000,000 for the improvement of the tramway service. It is intended to issue a series of municipal loans to this amount and spread the expenditure over a period of six years. The system is to be extended 50 miles and 1,200 bogie type cars are to be acquired. The features of the plan are the extension of the tracks by some 54 miles; reconstruction of tracks and bridges; and the construction of new cars and the repair of old cars and buildings.

Electrical Amalgamation, Japan.—The Fuji Electric Company, which has been steadily extending its holdings through the amalgamation of smaller concerns in Kanagawa and Shizuoka prefectures, has increased its capital to Y.20,000,000 in order to take over the properties of the Hokkaido Electric Company and the Hokkaido Water Power Company, both located in the northern island of Hokkaido.

S. M. R. Electric Service for Mukden.—The South Manchurian Railway Company will ask for an appropriation of Y.330,000 in the next budget to supply electricity to Mukden from Fushun.

It was recently proposed to build an electric railway in Mukden, but the scheme miscarried owing to inability to reach an agreement satisfactory to the local Chinese authorities. The present plan is to supply electricity to Mukden from the Fushun coal mines to enhance the prosperity of the city, preliminary to the building of an electric railway.

WATERWORKS AND IRRIGATION

Waterworks, Bombay.—Plans are being completed by the Municipal Commissioner of Bombay to bring into the city from Tansa Lake an additional 50,000,000 gallons of water per day to meet the growing demand for water, which scheme is estimated to cost 40,000,000 rupees (\$12,977,300 at normal exchange) distributed over a period of five years.

BUILDINGS

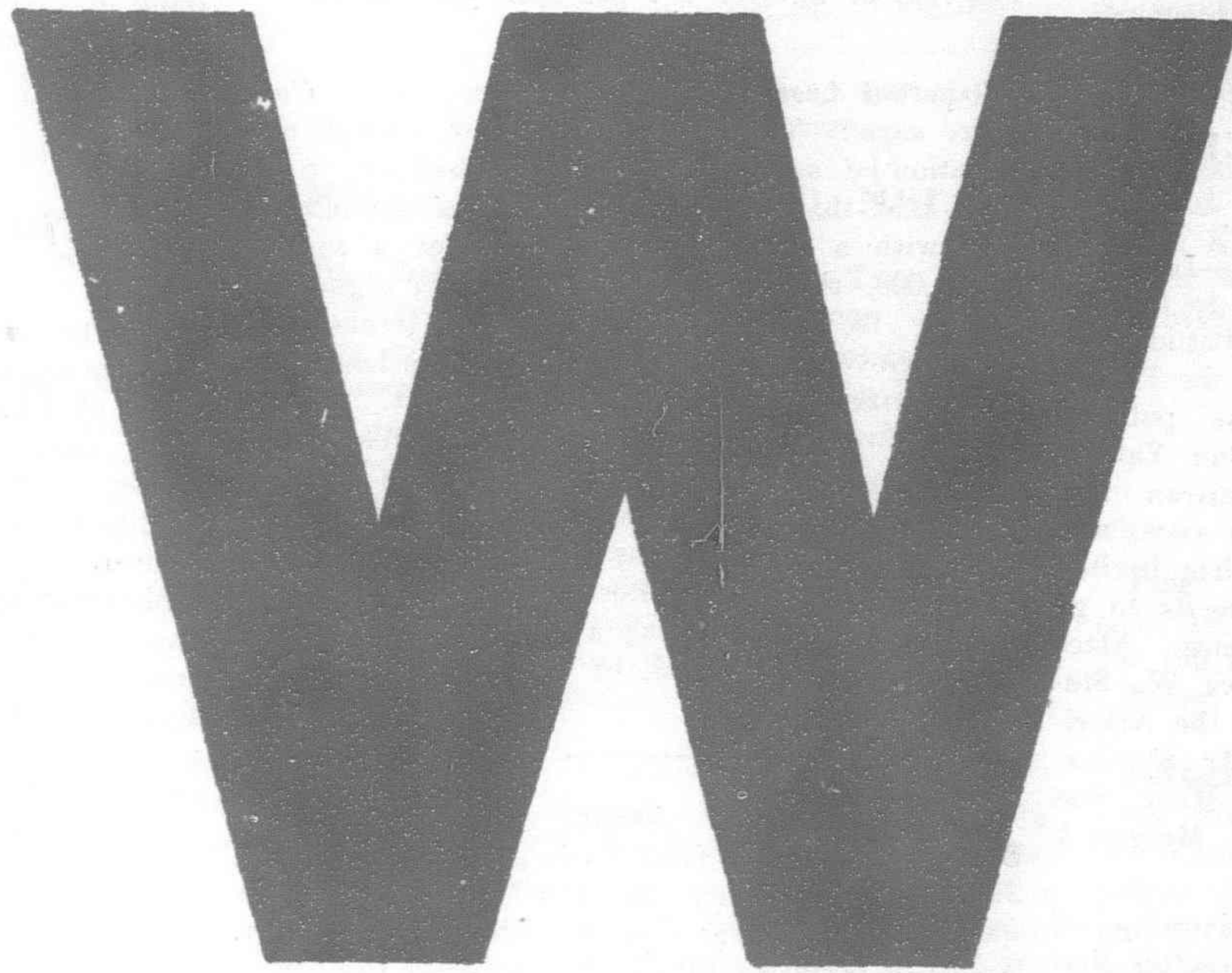
New Building Law, Japan.—As a part of the general awakening to the need for better and more artistic buildings, the Home Office has drafted new regulations for the purpose of officially supervising all new construction in the capital. The regulations will be extended to Osaka, Nagoya, Yokohama and Kobe, and afterwards to all other parts of the empire. To conform to the new regulations many buildings on the main streets of Tokyo and the other principal cities will have to be rebuilt, especially those of wood which constitute a grave fire menace to the rest of the city. The regulations will cover the style of architecture, general appearance and height of buildings, sanitary appliances, etc., and will require a special inspection bureau for their enforcement.

New Freight Station at Singapore.—Owing to the increase of freight traffic, the Federated Malay

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States Government has approved of a grant of \$95,000 for the purchase from the Singapore Harbor Board by the Federated Malay States Railway of a tract of land for the purpose of extending the freight station at Tanjong Pagar railway station, Singapore.

Korean School for Shanghai.—A Korean school is soon to be opened in Shanghai. Mr. W. H. Lyuh is planning to raise \$25,000 for the building. The Korean population of Shanghai is about 800, and the initial enrollment in the school is expected to amount to at least 70.

GOVERNMENT FINANCE

The Chinese Financial Consortium.—In anticipation of the Consortium conferences to be held in New York, this month, China's attitude and intentions are being canvassed both by the Peking government and the various Chinese political groups. It is understood that Dr. Sun Yat-sen will communicate direct with the American and European bankers, setting forth certain views and conditions. The Peking government has invited a number of active and passive opponents to go to the capital for a consortium conference. After the New York meetings, Mr. Frederick W. Stevens, the new Peking representative of the American group, will set sail for his post. Mr. Stevens, who comes to China from Ann Arbor, Mich., was formerly a member of the staff of J. P. Morgan & Co.

He was graduated from the University of Michigan in 1887, and for twenty years after that time he practiced law in Grand Rapids, and later in Detroit, being general counsel for the Pere Marquette Railroad Company. After severing his connection with J. P. Morgan & Co., in 1915, he travelled extensively in the Orient and has since been active as a director of several companies and in the reorganization of others. A Seattle correspondent states that Congress is to be asked to secure from the administration details of the Consortium plan. He says that it is desired to know what provisions have been made to safeguard an American investment in Chinese development that will ultimately total about \$3,000,000.

Chinese Short-term \$60,000,000 Bond Issue.—Considerable speculation in notes of the Bank of China has followed an announcement by the Chinese ministry of Finance on September 15 that there is to be a short-term bond issue for \$60,000,000 to redeem the depreciated paper of the Bank of China and the Bank of Communications. The report advanced the buying value of the Bank of China notes from 59 and less per cent. to 79 per cent. of their face value. The official notice gave the following particulars, in addition to stating that the senior "god of wealth," Mr. Liang Shih-yi, would be put in charge of the flotation:

1. National Bonds issued for the purpose of reorganizing the national currency on a sound basis.
2. Amounting to \$60,000,000.
3. Interest at the rate of 6 per cent. per annum.
4. Repayment in 6 years and twice annually (\$1,000,000). In the manner of lottery tickets. The first repayment will take place on March 31, 1921.
5. The customs surplus funds will be pledged as security and if such funds should prove insufficient, then the salt surplus funds will be used. Consent of the Customs Inspecting General has been obtained. Such funds as provided for will be deposited with the two Banks of China and Communications under a special heading and will not be

utilized for other purpose. 6. The National Bonds to be issued are solely for the purpose of collecting all bank notes issued by the two Banks of China and Communications. Sale of such Bonds will be from October 1, 1920 to January 31, 1921. After that date, all notes issued by the two Banks will not be considered as legal tender, but the two Banks will accept them as exchange for the Bonds now issued.

S.M.R. Bonds.—The subscription list for the new debentures of the South Manchuria Railway Company was opened on September 15, subscriptions being received by the Industrial Bank of Japan and its agents. The price is 95 per cent. The rate of interest is 7 per cent. per annum.

Reported Loan to Hupeh.—*Finance and Commerce* says: We have seen a report, though confirmation of same has not yet reached us, to the effect that the Hupeh government has concluded a loan with a local American bank for a sum of \$2,000,000, the agreement having been signed on August 19. The loan, which is termed the Hupeh Government Military Short Term Loan is to be amortized in one year, says the report. According to a vernacular paper, monthly interest of the loan is 8 per cent., and the government is to repay \$185,000 every month besides the interest. The proceeds of the loan was 95 per cent., the loan being secured by the Local Cash Office (Kuang Chien Chu). It being a purely local loan, the Central government has, of course, nothing to do with it.

French Uneasy About Chinese Treasury Bonds.—A dispatch from Paris states that early in July, "the French Minister of Finance was questioned with regard to the Chinese 6 per cent. Treasury Bonds of 1913 by a member of the Chamber of Deputies, who developed the following situation. According to the original agreement, these particular Chinese bonds, constituting a first mortgage, were to be reimbursed at an early date. During the war the holders could only obtain payment of their coupons by each time addressing a demand to the Chinese Ambassador in London, but since 1918 it has become impossible to secure payment by any means. The French government was, therefore, requested to see that full satisfaction was given to the French creditors. The Minister of Finance, in his reply, states that M. Millerand has cabled instructions to the French Minister at Peking to draw the attention of the Chinese government to the matter and to the urgency of an immediate remittance, as well as to the future punctual supply of the necessary funds to the English banks."

Russian Boxer Indemnity.—It is reported that Wai Chen-ten, the Minister to Belgium, and representative at the International Finance Conference in Brussels, recommends the Chinese government to submit the question of the payment of the Russian Boxer indemnity, and also the matter of German bonds for the Hukwang loan to the Conference for consideration.

Korean Finances, 1919.—The increased business prosperity in 1919 with its development of new enterprises naturally caused a greater demand for banking facilities. Three new banks with an aggregate capital of \$2,592,200 received official permission to organize while several others made application for permission.

The total amount of deposits in Korea at the end of December, 1914, was only \$19,297,828; this was increased to \$67,015,559 at the end of November, 1919, while loans increased from \$28,450,676 to \$150,808,685. Details are given in the following table:

DEPOSITS.			
Organization.	December, 1914.	November, 1919.	
Bank of Chosen	\$8,003,516	\$16,716,695	
Chosen Industrial Bank	2,352,332	15,177,604	
Other banks	5,755,939	25,517,141	
Credit guilds	15,772	2,445,810	
Post-office savings banks	3,170,269	7,158,309	
Total	19,297,828	67,015,559	

LOANS.			
Organization.	December, 1914.	November, 1919.	
Bank of Chosen	\$9,036,575	\$55,561,207	
Chosen Industrial Bank	5,755,017	33,901,982	
Other banks	8,897,658	39,918,996	
Oriental Development Co.	3,691,008	13,179,753	
Credit guilds	1,070,418	8,246,747	
Total	28,450,676	150,808,685	

Due to the great demand for money and its brisk movement caused by economic progress, the Bank of Chosen raised its rate of interest three times since August, 1919, and established an agency in New York in November, which should facilitate business between Korea and the United States.

Many of the banks have increased their capital. Among them are the Bank of Chosen with an increase from \$19,940,000 to \$39,888,000; the Chosen Industrial Bank from \$4,985,000 to \$14,955,000; and the Hansung Bank, a bank controlled and operated entirely by Koreans, from \$1,495,500 to \$2,991,000.

In proof of the financial and commercial prosperity of this peninsula the Bank of Chosen was able to declare for the period of business from July to December, 1919, a dividend of 6 per cent.; the Chosen Commercial Bank 10 per cent.; the Hansung Bank 8 per cent.; and the Chosen Industrial Bank 7 per cent.

No Loan from America.—The Peking correspondent of the *North-China Daily News* reported on September 21 that "the Chinese Ministry of Finance has been hoping to obtain from American bankers another advance upon the Wine and Tobacco Loan. In this they will be disappointed, for it is definitely understood in America that no action will be taken by American financiers interested in China until after the Consortium conference in New York in October."

BANKS

The Shanghai Branch of the Chinese-American Bank of Commerce.—A handsome new building on Nanking Road was opened on September 24, with felicitations from the Chinese president and a gala attendance of representative Chinese and foreigners. President Chien Nen-shun, ex-primer of China; vice-presidents J. A. Thomas and Hsu Un-yuen and other officials of the new institution spent several days in Shanghai. Later, Mr. Hsu and Mr. H. A. Allen left for the United States to open American branches in New York and other cities. This bank is allied with the Stone and Wiggin interests and one of the officers of the Shanghai branch, Mr. E. F. Chase, is a descendant of the founder of the Chase National Bank. The bank has the right to issue notes and its founders anticipate that it will play an important part in the future financial relations of China and America.

Park-Union Bank in New Shanghai Building.—The Park-Union Bank now occupies a fine loca-

tion at Kiukiang and Szechuan Road, Shanghai. This important financial concern is developing a strong position in the sound business circles of the "model settlement."

Sino-Italian Bank at Shanghai.—The Shanghai branch of the Sino-Italian Bank at 16, Kiukiang Road, was opened with much local and general interest on September 29.

Hwei Hai Industrial Bank.—The Hwei Hai Industrial Bank opened its new Shanghai branch at 22 Kiukiang Road on September 17. This institution was founded in Nantungchow, the model Chinese city, last year, by Chang Chien and Chang Char.

Sino-Russian Bank for Harbin.—The establishment of a Sino-Russian bank is being planned at Harbin. The capital will be \$10,000,000, to be raised by Russians and Chinese in equal shares. The bank's president will be selected from the Chinese, while the vice-president is to be chosen by Russians.

Chartered Bank Plans to Increase Capital.—The Chartered Bank of India, Australia and China, has received the following telegram from their London head office: "At the meeting of shareholders called for October 6 the board of directors will propose to sub-divide the present shares into 400,000, £5 each, also increase the capital to £3,000,000, by issue of 200,000 new shares of £5 each to be offered to existing shareholders in proportion of one new share for every two shares already held at a premium of £2 10s. per share, payment to be made as follows: £5 on or before November 15, 1920. £2 10s. on or before December 31, 1920. Interest will be paid on instalments at the rate of 6 per cent. per annum free of income tax from date of payment until December 31, 1920. After that date new shares will rank for in every respect *pari passu* with existing shares. Should resolutions be passed a second general meeting will be held on October 27 to confirm."

International Strengthens Reserve.—The International Banking Corporation has declared a dividend of \$6.00 per share, payable October 1, and added \$2,704,153 to the reserve of undivided profits. This brings the capital, surplus and undivided profits of this great Far Eastern financial institution to the substantial figures, \$13,204,153.

MERCANTILE FINANCE

Mogi Firm Adjustment.—A joint stock company will be organized and capitalized at Yen 500,000 to take over the liabilities of the extensive Mōji enterprises which could not be met by the old concern, the new company will maintain offices in Lyons, New York and London as well as in Yokohama, Tokyo, Osaka, Kanazawa and Fukui.

Chemical Combination, Japan.—The Sankyo Company will increase its capital to Yen 6,100,000 in order to take over the Naikoku Pharmaceutical Company.

Teikoku Sugar Manufacturing Co.'s Bonds.—The International Trust Company has underwritten a new issue of Yen 9,000,000 debentures of the sugar company, offered to the public at 97 bearing 8 per cent. interest.

Fertilizer Imports, Japan.—The wave of speculation which swept over Japan last year was responsible for an increase of 210 per cent. in the importations of fertilizers in the first six months of 1920 over the imports for the similar period of

last year. The following figures show the distribution of these imports according to materials:

	Imports In Y.1,000	Increase In Y.1,000
Bean cake ...	109,603	43,918
Cotton seed cake ...	4,710	1,362
Rapeseed cake ...	4,506	3,298
Oil cake ...	5,151	4,050
Fish cake ...	2,404	2,294
Nitrate ...	21,233	12,441
Sulphate of Ammonium ...	17,326	15,339
Phosphates ...	9,526	5,876
Bone Dust ...	7,012	5,344
Animal bone ...	4,767	1,968
Other ...	6,028	5,214
Total ...	192,266	101,167

MINES, MINERALS AND METALS

Oil Drilling in Saghalien.—Two hundred and forty Japanese drillers will soon commence boring in Saghalien for the Hokushinkai, a joint organization formed by the Japan, the Hoden and other Japanese oil companies, backed by the government.

Considerable money was spent before the war in prospecting for oil at Saghalien. During the war the fields fell into the hands of the Japanese and Russians. The activities of the Partisans held up activities for a time, but since the Japanese occupation prospecting has steadily gone forward.

Japanese Mints Output.—During the year 1919-20 Y.49,318,270,225 worth of coins were turned out by the Japanese Mint, including Y.36,551,080 of Y.20 gold pieces, Y.7,596,523.90 worth of silver pieces, Y.3,240,168.40 of nickels and Y.1,930,497,925 of brass coins. Compared with the previous year gold coins increased by 55 per cent. while silver pieces decreased by 47 per cent. Nickels increased by 10 per cent. The total increased by 24 per cent.

Gold Mining in India.—It is reported that the Indian government has made a new agreement with the gold mining companies of the country, whereby the government has the option of purchasing the whole or a portion of the output of the Indian mines at the market price in London calculated at the current rate of exchange.

Shansi Hard Coal Mine.—A coal mine about 30 odd miles to the east of Pingyaohsien, taps an excellent hard coal district. If a light railway were run out to the Yellow River possibly the coal could be sent down by water to Tsinanfu, and thence by rail to Tientsin or Tsingtao. At present the question of transport is a difficult one.

Korean Mining, 1919!—The mining industry, in which more American capital is invested than in any other line of business activity in Korea, experienced an unusual slackness during 1919. The Mitsubishi Iron Foundry at Kyomipo was forced to reduce its output, as was also the Suan Mine worked by the Seoul Mining Co. and the Kapsan Copper Mine worked by the Kuhara Mining Co. The reasons for this were difficulties experienced in the matter of transportation through the outbreak of rinderpest among the cattle and which totally stopped all transport, and the heavy death rate among the miners from cholera. The continual rise in the cost of supplies and living expenses gave added cause for the reduced output. The report of the Seoul Mining Co. for the year 1919 states that for the first time in the history of the company the expenditures for the year will exceed the receipts and that it would therefore not

be possible to distribute any dividends from the 1919 earnings. The Oriental Consolidated Mining Co., an American company operating the Unsan Mine, was able to declare a dividend of only 2½ per cent. for the year, whereas the dividend for 1918 was 5 per cent. Among other minerals, transactions in tungsten and graphite show a marked falling off. Figures available up to September 30, 1919, show a decrease of \$747,750 compared with 1918 in the export of tungsten, while for the same period graphite shows a decrease of \$254,235. Notwithstanding the slackness in the mining industry during 1919, much interest has been taken in the formation of new mining companies. Particularly is this true of companies desiring to carry on the mining of coal. During the month of June, of the 76 applications for mining rights 42 were for coal mining, no doubt due to the promising future for coal and the present scarcity of good fuel. One interesting venture that might be noted was the approval, early in the year, of the opening of an anthracite mine in North Kyōngsang, a Province in the south of Korea, where a very rich anthracite line extending over 8,167 acres has been discovered.

CONSTRUCTION

Fine Arts Hall, Osaka.—The Osaka Municipal authorities have offered a prize of Yen 8,000 for the best plan for a new Fine Arts Hall and Library, whose cost is estimated at Yen. 1,000,000.

Largest Torii in Japan.—The Navy Department will erect the largest torii in Japan before the Yasukuni Jinsha of Kudan, the soldiers and sailors shrine of the empire. It is to be made of iron covered with bronze, and will be 69 feet high, with uprights six and a half feet in diameter, the top beam being 99 feet. The weight of the bronze plating will be about sixty-five tons.

New Foreign Hotel at Sengataki, Japan.—The Hakone Real Estate Company, with a capital of Yen 20,000,000, is developing a new summer resort at Sengataki, near Kuriazawa. A subsidiary company, known as the Green Hotel, Ltd., with Yen 1,000,000 capital, has already expended Yen 400,000 in development, and is now having the plans drawn for a foreign hotel to cost Yen 250,000, in which all modern improvements will be installed. Many Japanese summer houses, including a club, have been erected, roads built, water and electric light installed, and a tract of land is being set aside for foreign residences.

Osaka Stock Exchange Building.—The largest stock exchange building in the Orient has been designed for Osaka by Dr. Kataoka. It will be a reinforced concrete steel frame structure and erected on the site of the present exchange.

New Yokohama Specie Bank, Tokyo.—The headquarters of the premier Japanese foreign trading bank will be removed to Tokyo, where a large modern banking building will be erected opposite the Bank of Japan. It will be a reinforced concrete steel building fitted with all the most improved furnishings. The construction materials will be ordered in America.

New Public Hall, Tokyo.—The Tokyo Municipal authorities have voted to erect a large public hall in Honjo or Fukagawa for the purpose of encouraging social education, and the spirit of co-operation. The plans provide for a building covering an area of 400 *tsubo*, to cost Y.1,500,000.

Osaka Building Loan.—The Osaka municipality has started negotiations with leading bankers for a loan of Y.10,000,000, to be employed in solving

the housing problem by the erection of new buildings and amplifying the working capital of the municipal car company.

Last April, the authorities began the construction of dwelling houses. The work is nearing completion, and applications for the houses are now being received. According to the *Osaka Asahi*, more than 1,400 applied for the 652 houses which the city will have for disposal.

American Ready Made Houses in Japan.—Contrary to expectation, imported moveable houses appear to be unpopular. It is stated by the Manager of Matsuya & Co., that the houses in question are quite different in style and structure from those of Japan, being more Occidental than Japanese in style, and would only suit foreigners anxious to live in semi-Japanese fashion. Another reason is that the custom duties levied on these moveable houses imported from America are remarkably high, because under the existing law each group of materials is taxed by itself, instead of being treated as a part of the houses.

In order to introduce the real style and structure of Japanese houses, to the producers of these moveable houses for the Japanese, some foreign importers in Yokohama are going to dispatch a few Japanese house-builders to America.

New Building Law, Japan.—The building law approved by the Diet orders all property owners in Tokyo and other cities to remodel their buildings to conform with the prescribed standards.

In accordance with the new regulations, a city will be divided into three districts, commercial residence and industrial.

Requirements or restrictions as to sanitation, facility of transportation and uniformity of height will vary according to the districts. In a commercial section, buildings must be such as to maintain or add to the beauty of the city and to be absolutely fire proof, not higher than 100 feet of steel and concrete. The standard regulations for a second or third class commercial section are less exacting.

In residence sections, buildings may be of semi-fire-proof structure.

Enforcement of the regulations will revolutionize building in Japan.

Finest Club Edifice in Orient, Tokyo.—The Japanese Industrial Club, under construction in front of the Tokyo Station for the past two years, is expected to be completed this month. The building is five-storied, covering an area of nearly 2,200 *tsubo*. The top story consisting of some 20 apartments will be used for lodging purposes, while the rest of the building will be open for the use of all

the Club members. The new club is said to be the best in the Orient.

Japan Steel Tube Works.—Three factories of the Japan Steel Tube Company at Kawasaki were destroyed by fire on August 30. The loss is estimated at Y.70,000.

Karachi Development Enterprise.—Consul E. Verne Richardson, Karachi, India, reports the establishment of the Karachi Building and Development Co. (Ltd.), capitalized at about \$3,250,000, the primary object of which will be to assist in the development of the town and port of Karachi by acquiring and opening up land and by progressive development and constructional work. It plans to include in its management staff, architectural, engineering and constructional experts, and in its equipment, manual, steam, and electric plants of the latest types.

Constructional Engineering in India.—The Indian Industries and Power calls attention to the good opportunities and prospects for constructional engineering firms in India in view of the great boom in constructional work there, as evidenced by the fact that building orders to the extent of at least £2,000,000 sterling are to be placed in Bombay alone.

New Hotel, Harbin.—The local press states that a group of Japanese capitalists are contemplating erecting a big, modern hotel in Harbin, to be called the "Yamato Hotel."

Dairen Building Enterprises.—From January to June permits for altogether 2,360 buildings, containing 31,998 *tsubo* at Dairen, were issued by the Dairen Civil Administration, the total capital to be invested in them being Y.7,087,000. Of the above, 173 buildings, out of this year's lot and 30 others out of last year's were completed, giving the floor space of 5,569 *tsubo*.

New Kobe Building Company.—Mr. S. Kawaniishi, president of the Kawanishi Steamship Company, and a number of well-known business men in Kobe, are now contemplating establishment of the Kobe Real Estate Company to be capitalized at Y.10,000,000, its principal objects being to supply the citizens with land and houses at more reasonable price.

It is stated that about half of the capital has already been paid in and an inauguration meeting of the new firm will be held at the Kobe Chamber of Commerce building some time in September.

As soon as the new company is formally established, the management will start buying ground suitable for residential districts, and houses constructed there will be let at cheaper rent or sold on instalment payments.

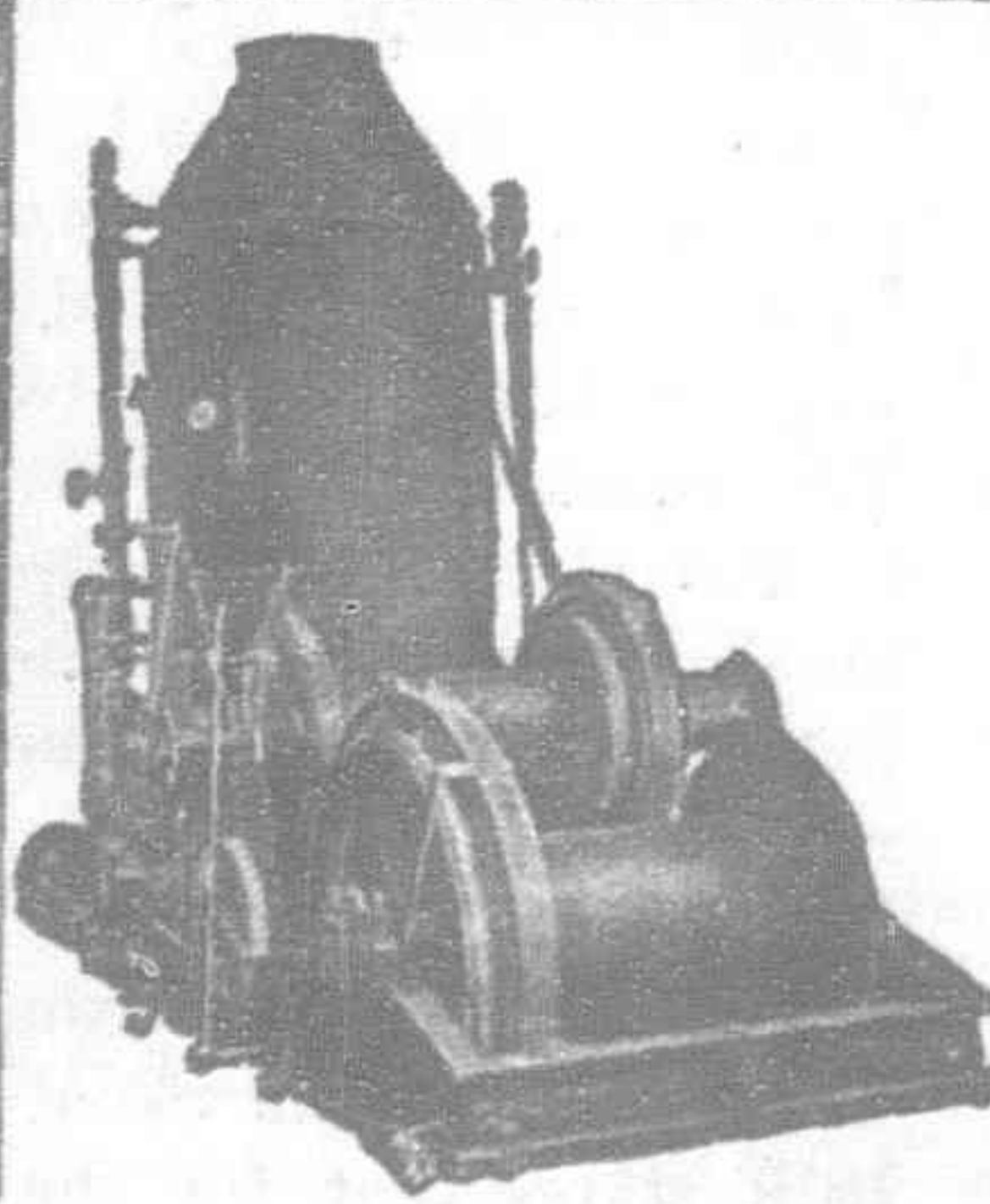
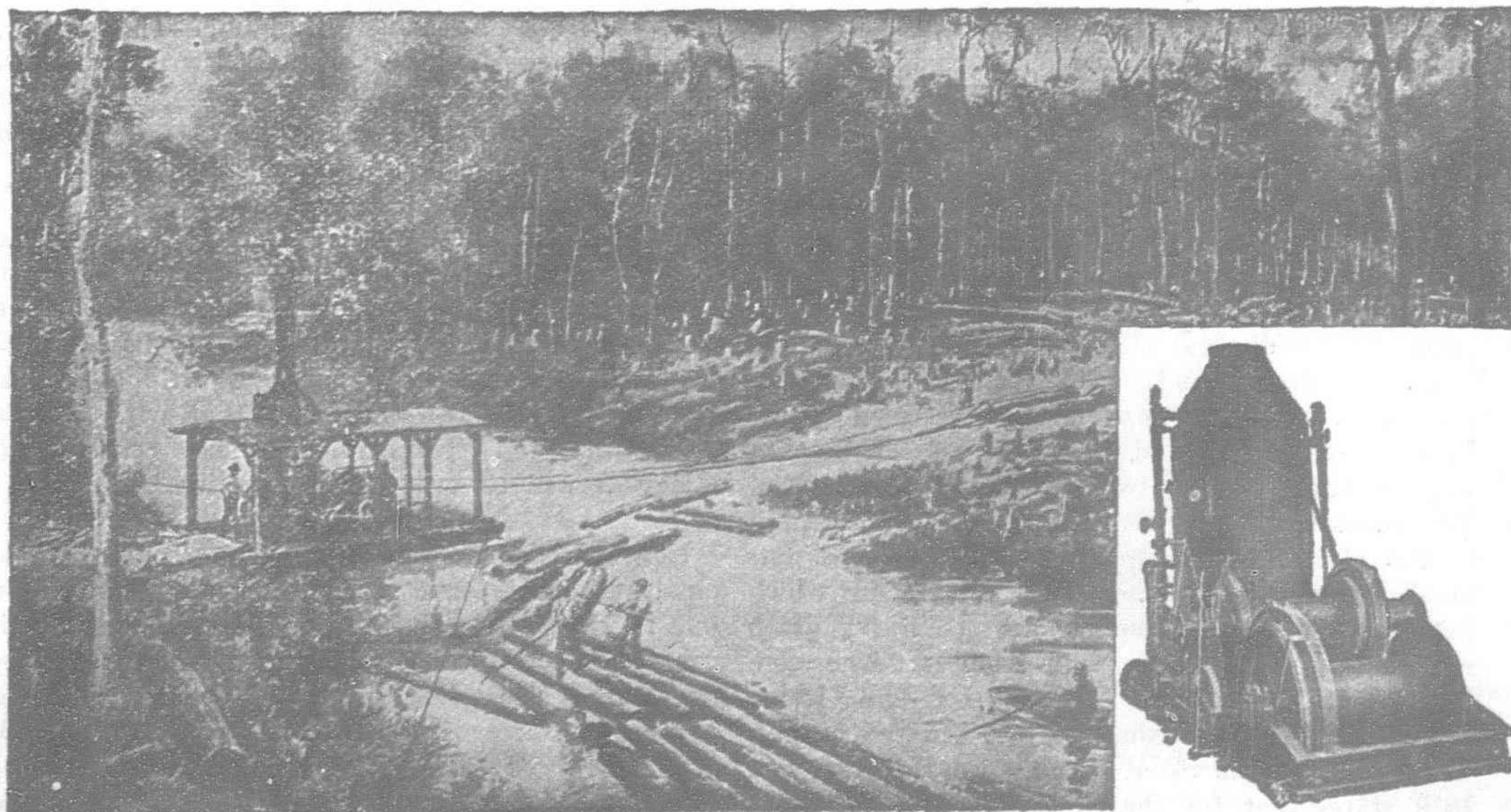
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New Steel and Reinforced Concrete Building, Osaka.—The Osaka Foreign Language School will construct a three-storied main hall and a two-storied lecture room of steel and reinforced concrete. The estimated cost is Y.490,000 and it is expected to be completed in time for the 1922 school term.

MACHINERY

Machinery in Japan.—Japan's rapid industrial progress during the past five years is nowhere more conspicuous than in the development of the machinery trade. Japan imported in 1914 machinery to a value of somewhat more than \$12,000,000; in 1918 more than \$29,000,000. In 1914 the United States furnished 20 per cent. of the total imports of machinery; in 1918 80 per cent. Japan's exports of machinery, chiefly to far eastern countries, have increased from \$634,000 in 1914 to approximately \$7,890,000 in 1918. Exports include electrical machinery, spinning and weaving machinery, lathes and printing machinery.

Market for American Agricultural Machinery in Java.—American Trade Commissioner John A. Fowler states that, in his opinion, there are good prospects for the sale of large numbers of American tractors to the plantation owners of Java, the opening of which market would be hastened by the cooperation of American manufacturers, and suggests that tractor and implement manufacturers send experienced men to Java to demonstrate their machines to the people and let them know what cooperation they may expect from the manufacturers. At present there are plows, rollers, cultivators, and other implements to work with in Java, but the people are not educated up to their use. There is also a market for ditchers, which should be of a plow type of implement that will



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cut the soil so it can easily be squared up, and it is thought that it should be attachable to the tractor to get the advantage of the tractor's weight.

MOTORS

Dennis Lorry Agency, Japan.—Sir Raymond Dennis, during his visit to Japan, appointed as sole agents for the 2-ton Dennis lorries, the Tokyo Gas and Electric Engineering Company.

Motor Car Bonus, Japan.—The maximum number of home-manufactured motor trucks on which premiums will be paid this year by the Japanese government has been increased from 72 to 95.

Motor Bus Service in Singapore.—The problem of local transportation in Singapore will be partly solved by the recent inauguration of a new system of motor transportation by a company in that city, says Consul General Edwin N. Gun-sulus, Singapore, Straits Settlements. The company has constructed three motor busses, at an average cost of \$9,500, built after the type of the summer street car. They are about 23 feet long and 7 feet wide and have six rows of seats, each row accommodating five passengers. The motors used are the products of well-known American and British manufacture. At present two of these busses are being operated along the route from Sepoy Lines to Geylang, which route is divided into five sections, and a price of 5 cents has been fixed for each section. The business on this route has been successful, and if the system proves profitable the company intends extending the service and building more busses.

SHIPBUILDING

Launch of the s.s. "Dukat."—The sixth of eight vessels which are being built for Norwegian owners by the New Engineering & Shipbuilding Works, Limited, the s.s. *Dukat* was successfully launched on September 29 at the Company's Works, Yangtsepoo Road, Shanghai. The s.s. *Dukat* and her sister vessels are built to Det Norske Veritas highest requirements the leading dimensions being as follows:—

Length overall	254-ft. 6-in.
Length between perpendiculars	242-ft. 6-in.
Breadth moulded	37-ft.
Depth moulded	17-ft.

The vessels are of the single deck type, divided into six watertight compartments and provided with a cellular double bottom for water ballast extending fore and aft of vessel. Water ballast is also carried in the fore and after peaks, the total capacity being 480 tons. The deadweight carrying capacity of vessel is 2,000 tons and a speed of 10 knots is easily obtained under loaded conditions, the average speed obtained on trial under ballast being 11½ knots. The vessels are built with clear holds and the hatches are specially large for quick handling of cargo. The cargo handling arrangements consist of four tubular steel derricks to each of the two masts, three steam winches being fitted at the fore and after hatches and one mounted on the poop making seven winches in all. The navigating and engineer officers are berthed amidship and the crew's quarters are fitted up in the poop in accordance with the Norwegian rules. In addition the forecabin is fitted up for Chinese crew for use whilst operating in Eastern waters. The propelling machinery which is situated amidships consists of one set triple expansion, surface condensing engines having cylinders 18½-in. by 29-in. by 49-in. by 33-in. stroke, capable of developing 1,100 indicated horsepower. Steam is supplied from two cylindrical return tube boilers each

12-ft. 5-in. diameter by 10-ft. 6-in. mean length working under natural draught and designed for a working pressure of 180 lbs. per square inch. A complete auxiliary plant is installed in the engine room comprising independent centrifugal pump, ballast pump, general service pump, auxiliary feed pump and a duplicate set of Weir's independent feed pump working in conjunction with Weir surface feed heater using steam from the intermediate receiver of main engine. A 10-ton evaporator is fitted also an auxiliary condenser and automatic drain tank for dealing with exhaust steam from winches when working cargo in port. The vessel is provided with steam windlass of the "Emerson" type and steam steering by the builders, electric light is fitted throughout the accommodation and machinery space and powerful clusters are arranged at cargo hatches. Immediately after the launching, the s.s. *Dukat* was taken alongside the wharf under the sheerlegs to have her engines, boilers and auxiliary machinery placed on board.

Japanese Dreadnought Completed.—The construction of the battleship *Nagato* has been completed. The official trial trip of the new fighting machine will take place on October 10. The *Nagato*, along with the *Fuso*, *Hyuga* and other battleships, will constitute the main force of the first line squadron. If the trial trip is satisfactory, the vessel will be handed over to the naval authorities on December 1.

The *Nagato* is of 33,800 tons. She is 660 feet in length, 95 feet in breadth and has a draft of 30 feet, while she can attain a speed of 23 knots per hour. The fighting equipment of the battleship includes eight 16-inch guns, twenty 5¼-inch auxiliary guns, four 3-inch guns and 8 torpedo tubes.

Australian Shipbuilding Plan.—A Reuter's dispatch from Melbourne says that the Commonwealth government has presented to the Senate a statement, showing that it controls 23 government-owned and 16 enemy-owned steamers.

It is proposed that an additional 11 steamers of 12,000 tons and 18 smaller cargo vessels shall be constructed locally for the government.

The net profit for the financial year, 1918-19 was over £1,000,000 but the estimated profit for the year 1919-20 is £250,000 owing to the strike.

The government points out that the establishment of the Commonwealth line is not to make profits but to prevent the isolation of Australia owing to disruption of the world's shipping lines; and that it will have a beneficial effect in preventing a combination of shipowners, detrimental to Australian interests.

Ship Equipment Inspection Office, Osaka.—A branch of the Ship Equipment Investigation Office in the Mercantile Marine Bureau will be opened in Osaka on October 1. This office is engaged in the investigation of all kinds of ship equipment, and issues certificates as to the quality of the articles investigated. The great development of shipping trade in the neighborhood of Osaka and Kobe has made it necessary that a branch office be established in that part of the country.

Great importance is attached to steel and iron used for the construction of ships, rigging, signals and life-belts, and it is understood that the new office will undertake the investigation of such articles to start with, its operations being gradually extended hereafter.

New N. Y. K. Freighter.—The *Takeshima Maru*, a freighter of 7,000 tons gross, built to the order of the Nippon Yusen Kaisha, was launched from the Yokohama Dockyard on August 23. The *Takeshima Maru* is the second boat to be built at the yard this year for the N.Y.K.

Japan's New Submarines.—Japan will have about 120 submarines by 1927 when the "eight-

eight" program will be completed. At present there are about 20 submarines, according to the *Jiji*, but under the new plans, to be completed in 1923, 80 new submarines are to be built. At present the Mitsubishi Shipyard is building five and the Kawasaki Dockyard three, while ten are under construction at the various naval dockyards.

Before the war the cost of constructing a submarine was about Y.3,000 per ton, but the present cost exceeds Y.5,000. It is said that the Mitsubishi Shipyard is short about Y.500,000 on account of a submarine now under construction.

Icebreaker for Karafuto Run.—The Nippon Yusen Kaisha has ordered the construction of a new type icebreaker, of 2,700 tons displacement with speed of 20 knots for a new service between Japan and Karafuto.

New Moji Ferry Boats.—Two new railway ferry boats of 400 tons each are being built for the Moji-Shimonoseki service in place of the old boats which have been in use for the last 19 years.

Each of the new boats will have a capacity of 800 passengers and 50 baggage trucks. They will cross the channel in seven minutes. They are expected to be ready by October 1.

SHIPS

Nationalization of Japan's Shipping.—The *Japan Times* says: It is reported on good authority that the Seiyukai party has informally decided to introduce a bill proposing the nationalization of vessels in the next regular session of the Imperial Diet, and the party headquarters has secretly started investigation on the subject with Mr. Kawahara as head of the special committee appointed for that purpose.

Several shipping concerns in Kobe welcome the departure of the Seiyukai as a timely measure to relieve the present depression prevailing in shipping interests of the empire.

Japan Orders Twelve Warships.—The Japanese government has distributed orders for the construction of twelve new warships. The Kawasaki Dockyard has been awarded the contract for the construction of the battle-cruiser *Atago* and two destroyers, the Mitsu Bishi Company will build the battle-cruiser *Takao*, the light cruiser *Natori* and one destroyer. The Uraga, Fujinagata and the Ishikawajima Shipyards have each received orders for the construction of two destroyers.

Nisshin Company Resumes.—The regular steamer service between Osaka and Hankow of the Nisshin Steamship Co., which was temporarily discontinued owing to the inactivity of cargo movement last spring, was re-opened on August 31.

Cunard-Pacific Service?—According to press reports, negotiations are progressing between the Canadian government and the Cunard Company concerning the operation of a steamer service between Canada and the Orient.

Three passenger steamers will operate regularly between Canada and Oriental ports commencing next January. The participation of the Cunard liners in the Pacific route in addition to twelve passenger boats to be placed on similar service by the U. S. Shipping Board next year is believed to give a severe blow to the interests of Japanese shipping eventually.

Czecho-Slovakia Buys Japanese Ships.—Mr. Mikami of Uchida and Company, who completed the sale of the *Taikai Maru*, a new 9,000-ton ship,

to the Czecho-Slovak government, believes that other Japanese ships will be purchased.

New Japanese Subsidized Lines.—The Japanese Department of Communications has published the following official announcement: "With a view to extending the present service to the west coast of South America and opening a new subsidized line to its east coast, both from October, the government introduced a bill in the special session of the Diet making provision for the proposals. The necessary sanction of the Diet having been obtained, the government has arranged to revise the Overseas Shipping Subsidy Law in order to carry the proposals into execution.

"Under the new arrangement the present shipping resources for the line to the west coast of South America will be doubled, and thus six ships will be used to maintain a regular monthly service, making twelve voyages a year.

"As to the new line to the east coast of South America, it begins at Kobe and ends at Buenos Aires, the ports of call on the outward voyage being Yokohama, Nagasaki, Hongkong, Singapore, Capetown, and Santos, and those on the return voyage, Rio de Janeiro, Santos, Christobal, and Yokohama. On this line six vessels of between 5,000 and 7,500 tons gross each with a speed of between 14 and 16 knots, will be employed to keep up not less than two voyages in three months or ten voyages a year."

Sino-Belgian S.S. Line.—The Peking *Ji Shi-pao* says that a number of Chinese merchants, in co-operation with Belgians, have raised 50,000,000 francs with the object of organizing a Sino-Belgian steamship company to trade between China and Belgium.

Four big liners will be commissioned first. The Company will be a purely commercial one with only Chinese and Belgian shareholders.

Java-China-Japan Line May Give Up Oil as Fuel.—In their report for 1919, the directors of the Java-China-Japan Line, of Amsterdam, after discussing general shipping conditions, say that the results obtained were quite satisfactory, with substantial but irregular shipments of sugar from Java to China and Japan, tonnage having to be chartered at times. The report continues:

"Japanese shipping competition on East Asiatic routes has become more apparent, and United States competition has now also entered this field. The regular four-weekly Java-Pacific service was reopened, six vessels, including two of the Netherlands Company and two Rotterdam Lloyd, having been put on this service. Most vessels sailed with full cargoes direct to San Francisco, but in a few instances part cargoes of sugar only could be obtained, and steamers had to sail via Vancouver. The Pacific Coast of North America not being an export centre, the service is dependent on the exports of Eastern States for return freights, and consequently to some extent on the railway policy of the United States government. The compensation received from the United States authorities for the reconditioning of the steamships *Tjison-dari* and *Tjikembank*, which were released at Manila on August 23 and October 22, 1919, respectively, was insufficient to cover the high costs of repairing. Many difficulties were experienced in securing supplies of oil fuel at Balek Pappan and Tarakan, and even with the enormous prices adequate supplies could scarcely be obtained, and the company may be compelled to return to the use of coal. This would be a very regrettable matter, as in this case the steamers of the Java-Pacific Line, instead of making the voyage direct, would be obliged to call at a Japanese port for bunkers. Owing to the extension of Indian trade relations with China, Japan and the West Coast of America, the bulk of the trade was transferred to Java, and the company has decided to move its head agency from Hongkong to Batavia

from January 1, 1921. The offices at Hongkong will, however, be maintained. The company subscribed to the capital of the recently formed Associated Dutch Shipping Company to the amount of 10,000,000 guilders, and this will probably be settled by the transfer of the steamships *Tjikandi* and *Tjibcasar*, now building at Glasgow and intended for the Holland-East Asia Line, which has been taken over by the Associated Company. The construction of the steamships *Tjikarang* and *Tjikalong*, building at Amsterdam by the Netherlands Shipbuilding Company, is progressing slowly owing to the irregular supply of materials and labor difficulties. The reserve for losses on exchange, 41,000 guilders, and for losses on chartered tonnage, 150,000 guilders, have been transferred to the reserve for various interests. The total gross profit for 1919 amounts to 10,675,762 guilders (15,465,420 for 1918)."

PORT WORKS, DREDGING, DOCKS, ETC.

New 40,000 Ton Dry Dock, Kure.—A dock capable of accommodating a warship of 40,000 tons will be built at the Kure Naval Yard.

In addition, the Naval Dockyard is extending one of the existing slips for the construction of the battle cruiser *Akagi*, the keel of which will be laid in the middle of December.

Nagasaki Harbor Works.—The appropriation of ¥750,000 approved by the special session of the Diet for the improvement of the Nagasaki harbor is expected to be used shortly, according to the announcement made by the Home Office. The reconstruction is expected to be finished within three years time commencing this year and the work will be on the extension of the breakwaters, new reclamation work, dredging out of the passage and reconstruction of the pier.

Dalny Harbor Improvements.—In order to insure the industrial development of Dalny, the authorities have decided to undertake the necessary reclamation of the port, and will dispatch Dr. Koga, Chief of the Colonial Development Bureau, to make the preliminary investigations.

New Deep-Water Pier, Kobe.—The authorities have under consideration the construction of a new pier, 1,470 feet long, with 40 feet draft alongside at Onohama in the second section of the harbor improvement scheme. Such a pier is capable of accommodating two steamers of 20,000 tons.

Tokuyama Harbor Works, Japan.—The harbor at Tokuyama near Kure is to be enlarged in order to make the port ready for the proposed establishment of a naval fuel depot there. The harbor will be reclaimed about two miles around in order to provide sufficient deep water wharfage for the warships now being built there.

Olongapo Naval Station.—The United States naval station at Olongapo is to be dismantled, and the machinery and equipment transferred to the Cavite Naval Station, on Manila Bay. The drydock Dewey will be moved to Cavite. The Olongapo station also includes a hospital, machine and carpenter shops, ice plant, and the other accessories of a complete naval station. The consolidation of the two stations has been recommended several times to the Navy Department. When it is effected, the Cavite Naval Station will be the only one in the Philippines.

To Protect Tientsin from Floods.—A new dyke, 25 li in length, extending from the Provincial Prison at one end to section house No. 4 on the Liang-wang-chwang Chen-tang-Chwang Branch

of the Tientsin-Pukow Railway at the other end and enclosing an area of approximately 6,600 acres, has recently been built to protect Tientsin from being flooded again by the waters from the Nan Yun Ho. The entire construction, including three locks to allow for navigation and drainage, was started on May 11 and completed on August 8.

TELEGRAPHS, CABLES, WIRELESS, ETC.

Japan's Great Wireless Plant.—The big wireless station covering 20,000 *tsubo*, under construction by the Department of Communications in Haranomachi, Fukushima-ken, will be completed and ready for service in October. The generating plant and office buildings are completed and the steel framed concrete wireless pole to measure 600 feet has been finished as high as 500 feet. A 400 kilowatt generator and other machines being manufactured in the Shibaura works in Tokyo will make possible transmission half way around the earth. When completed, the station will rank second or third greatest in the world.

The large receiving station in Tomioka, five miles from Haranomachi, was opened in March last, where messages sent by the Great Nauen station in Germany are received.

On August 24, a message sent from the Nauen station to Buenos Aires, containing the day's news about the war in Poland and conditions in Germany, was heard plainly.

"Long Distance" for Central China.—A long distance telephone line is planned to connect the cities of Hankow, Wuchang and Hanyang with Ichang and Shasi, two important commercial ports in Hupeh. An electrical engineer has been sent by the ministry of communications to Hankow to look into the possibility and advisability of installing this line.

Wireless on Trawlers.—The Kyodo Gyogyo Kaisha (Associated Fishery Company) has ordered the installation of wireless on two of their new trawlers, and if it proves a success in regulating the catch to conform to the demand of the market, at least thirty other trawlers belonging to the company will be similarly equipped.

Wireless Loan, China.—Negotiations between the war office and the British Marconi Co. for a loan of £3,000,000 for the establishment of fifty wireless stations in China have proceeded smoothly, and it is reported that an understanding has been reached as to terms and the agreement will be signed in the near future. The opposition of the navy department to this loan makes its final conclusion uncertain.

New Wireless School, Japan.—The new commercial wireless school building now under construction at Meguro, will be completed during the year. There are two wireless schools in Japan maintained by the government, one for government and the other for commercial training. The Meguro school will be used for training operators for commercial and merchant marine service. The demand for operators is much greater than the supply. Over a hundred vacancies exist, and salaries reach Yen 90 a month on some of the steamship lines, with bonuses.

Japan-U. S. Wireless.—The wireless service between Japan and United States via Funabashi and Iwaki wireless stations, which has been limited to messages sent from and to Hawaii, San Francisco, California, Oakland and Alameda, has been extended to other parts of California, Oregon, Washington and British Columbia, the negotiations for that purpose with the American author-

ties having been smoothly arranged recently. The new rates are as follows: To California Y.1.54 per word; to Oregon Y.1.54 per word; to Washington Y.1.54 per word; to British Columbia Y.1.65 per word. At the same time the rate for wireless press messages sent to Japan from Hawaii, San Francisco, and other parts of the United States and British Columbia has been reduced to half of the rate for ordinary messages. It is understood that the said press messages are limited to 500 words a day for each sender.

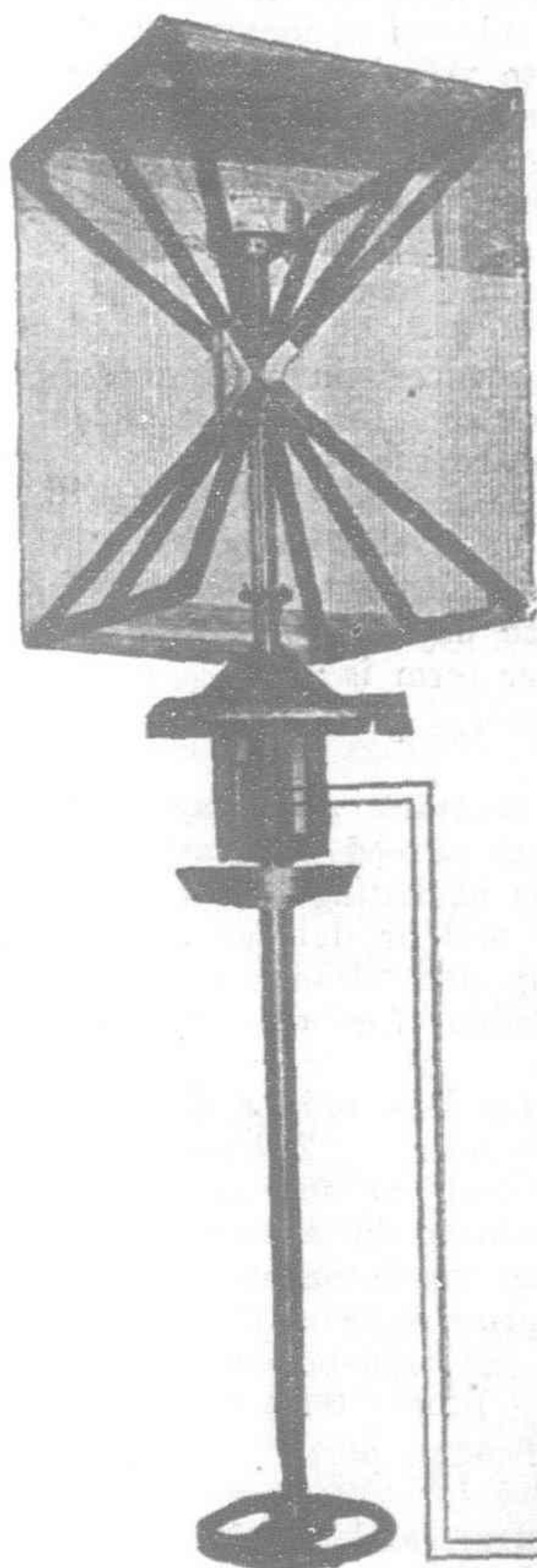
Chinese Government Wireless Station.—The government wireless station at the Temple of Heaven, Peking, is open for service, and all telegraph offices in the city will accept messages at the same rates as those charged for land-line messages for transmission to Kalgan, Wuchang, Woosung, Shanghai, and Foochow. Special rates apply to radio-telegrams sent to ship and aviation stations, and such messages are accepted only by the central office.

This service gives Peking improved communication with some of the most important commercial centres in China. Kalgan, Chihli Province, handles much Mongolian trade; Wuchang, Hupeh Province, is one of the Wuhan cities (the others being Hankow and Hanyang), which have a combined population of about 1,500,000; Woosung is in Kiangsu Province, 15 miles from Shanghai, where the larger ocean steamers anchor; Shanghai is the leading port of China; Foochow, Fukien Province, has a large export trade in tea. It is reported that a wireless station will be established at Urga, Mongolia, during the present year.

AIRCRAFT

Yokohama-Tokyo Aerial Mail.—Plans for this service have been practically completed, the final arrangements hinging on the type of plane

Radio Compasses or Direction Finders



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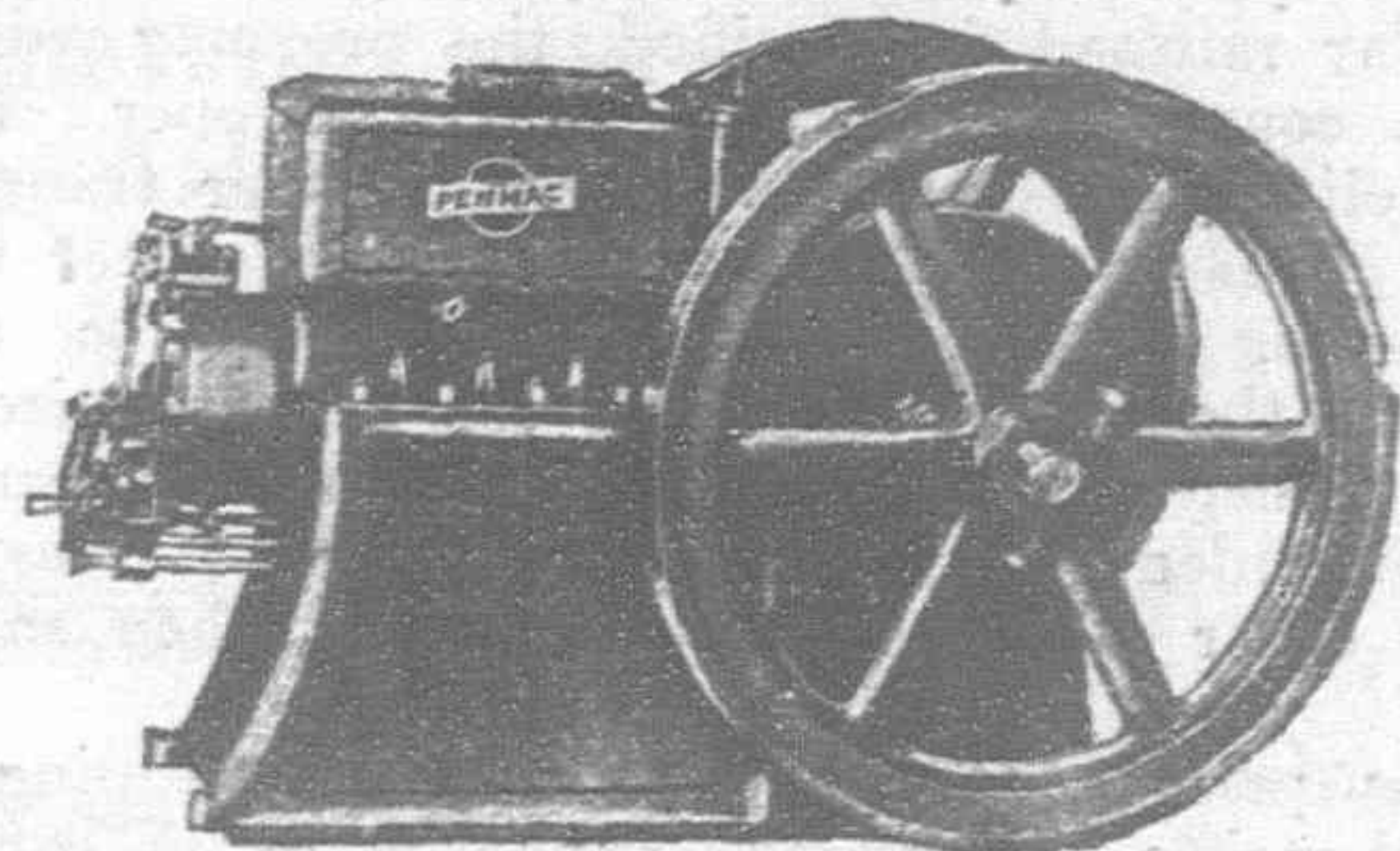
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OIL ENGINES

to be employed. The military authorities have given permission for the use of Aoyama parade grounds as a landing place in Tokyo, but owing to the absence of a desirable landing in Yokohama within easy distance of the postoffice, navy sea planes may be employed.

British Naval Aviators for Japan.—Thirty British naval aviators are being selected to act as instructors to the Japanese naval aircraft school. The sum of Y.6,000,000 will be appropriated for the expenses of this mission which will be quartered at Kasumigaura, Ibariki Prefecture, where the new naval aerodrome is being erected. The Japanese army, on the other hand, has inclined towards French aviation instructors, whose mission is now in Japan under the command of Colonel Faure. The French are defraying their own expenses. In this brief note is summarized the result of pernicious propaganda against Japan in the United States, another instance where our manufacturers are heavily penalized and handicapped through the constant reference to hostilities between the two nations. By the time this agitation blows over, the Japanese air service will be completely modelled along British and French lines.

INDUSTRIES

Sino-Japanese Paper Mill, Kirin.—The military governor of Kirin has floated a new paper mill company on the river Sungari jointly with Baron Okura, head of Okura & Co., which is to be capitalized at Y.5,000,000. The new enterprise is to be named Kirin Paper Mill Company. Preparations for the erection of mills have been started and it is believed that in the early part of next year the new mill will be in full blast.

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Additional Foreign Connections Desired.

Export Quotations Defined

IN response to the increasing number of complaints on the part of international traders that various terms in frequent use are being loosely employed, with the result that sellers and buyers frequently have different views as to their meaning and the nature of the obligations assumed when making them a part of export or import contracts a group of representative American export organizations has adopted a series of definitions together with detailed statements of the obligations assumed by both seller and buyer when these abbreviations and the phrases employed to govern them are employed to form part of the contract between them. The definitions here given have been formally adopted by the National Foreign Trade Council, Chamber of Commerce of the U.S.A., National Association of Manufacturers, American Manufacturers' Export Association, Philadelphia Commercial Museum, American Exporters' and Importers' Association, Chamber of Commerce of the State of N.Y., N.Y. Produce Exchange, and N.Y. Merchants' Association, at a conference held in India House, N.Y., on December 16, 1919.

EXPORT QUOTATIONS.

These are, in their order, the normal situations on which an export manufacturer or shipper may desire to quote prices. It is understood that unless a particular railroad is specified, the property will be delivered to the carrier most conveniently located to the shipper. If the buyer, for the purpose of delivery, or in order to obtain lower transportation charges, desires that the goods be delivered to a carrier further removed from the shipper and entailing a greater cost than delivery to the carrier most favorably situated, the carrier to which the buyer desires delivery of the goods should be named in the quotation. The term "cars or lighters" as used herein, is intended to include River, Lake or Coastwise ships, canal boats, barges, or other means of transportation, when so specified in the quotation.

1. When the price quoted applies only at shipping point and the seller merely undertakes to load the goods on or in cars or lighters furnished by the railroad company serving the industry, or most conveniently located to the industry, without other designation as to routing, the proper term is:

"F. O. B. (named point)"

Under this quotation:

A. Seller must (1) place goods on or in cars or lighters. (2) secure railroad bill of lading. (3) be responsible for loss and/or damage until goods have been placed in or on cars or lighters at shipping point, and clean bill of lading has been furnished by the railroad company.

B. Buyer must (1) be responsible for loss and/or damage incurred thereafter. (2) pay all transportation charges including taxes, if any, (3) handle all subsequent movement of the goods.

2. When the seller quotes a price including transportation charges to the port of exportation without assuming responsibility for the goods after obtaining a clean bill of lading at point of origin, the proper term is:

"F. O. B. (named point) FREIGHT PREPARED TO (named point on the seaboard.)"

Under this quotation:

A. Seller must (1) place goods on or in cars or lighters. (2) secure railroad bill of lading. (3) pay freight to named port. (4) be responsible for loss and/or damage until goods have been placed in or on cars or lighters at shipping point, and clean bill of lading has been furnished by the railroad company.

B. Buyer must (1) be responsible for loss and/or damage incurred thereafter. (2) handle all subsequent movement of the goods. (3) unload goods from cars. (4) transport goods to vessel. (5) pay all demurrage and/or storage charges. (6) arrange for storage in warehouse or on wharf where necessary.

3. Where the seller wishes to quote a price, from which the buyer may deduct the cost of transportation to a given point, without the seller assuming responsibility for the goods after obtaining a clean bill of lading at point or origin, the proper term is:

"F. O. B. (named point) FREIGHT ALLOWED TO (named point on the seaboard.)"

Under this quotation:

A. Seller must (1) place goods on or in cars or lighters. (2) secure railroad bill of lading. (3) be responsible for loss and/or damage until goods have been placed in or on cars or lighters at shipping point, and clean bill of lading has been furnished by the railroad company.

B. Buyer must (1) be responsible for loss and/or damage incurred thereafter. (2) pay all transportation charges (buyer is then entitled to deduct from the amount of the invoice the freight paid from primary point to named point). (3) handle all subsequent movement of the goods. (4) unload goods from cars. (5) transport goods to vessel. (6) pay all demurrage and/or storage charges. (7) arrange for storage in warehouse or on wharf where necessary.

4. The seller may desire to quote a price covering the transportation of the goods to seaboard, assuming responsibility for loss and/or damage up to that point. In this case, the proper term is:

"F. O. B. cars (named point on seaboard.)"

Under this quotation:

A. Seller must (1) place goods on or in cars. (2) secure railroad bill of lading. (3) pay all freight charges from point of shipment to port on seaboard. (4) be responsible for loss and/or damage until goods have arrived in or on cars at the named port.

B. Buyer must (1) be responsible for loss and/or damage incurred thereafter. (2) unload goods from cars. (3) handle all subsequent movement of the goods. (4) transport goods to vessel. (5) pay all demurrage and/or storage charges. (6) arrange for storage in warehouse or on wharf where necessary.

5. It may be that the goods, on which a price is quoted covering the transportation of the goods to the seaboard, constitute less than a carload lot. In this case, the proper term is:

"F. O. B. Cars (named port) L. C. L."

Under this quotation:

A. Seller must (1) deliver goods to the initial carrier. (2) secure railroad bill of lading. (3) pay all freight charges from point of shipment to port on seaboard. (4) be responsible for loss and/or damage until goods have arrived on cars at the named port.

B. Buyer must (1) be responsible for loss and/or damage incurred thereafter. (2) handle all subsequent movement of the goods. (3) accept goods from the carrier. (4) transport goods to vessel. (5) pay all storage charges. (6) arrange for storage in warehouse or on wharf where necessary.

6. Seller may quote a price which will include the expense of transportation of the goods by rail to the seaboard, including lighterage. In this case, the proper term is:

"F. O. B. Cars (named port) LIGHTERAGE FREE."

Under this quotation:

A. Seller must (1) place goods on or in cars. (2) secure railroad bill of lading. (3) pay all transportation charges to, including lighterage at, the port named. (4) be responsible for loss and/or damage until goods have arrived on cars at the named port.

B. Buyer must (1) be responsible for loss and/or damage incurred thereafter. (2) handle all subsequent movement of the goods. (3) take out the insurance necessary to the safety of the goods after arrival on the cars. (4) pay the cost of hoisting goods into vessel where weight of goods is too great for ship's tackle. (5) pay all demurrage and other charges, except lighterage charges.

7. The seller may desire to quote a price covering delivery of the goods alongside overseas vessel and within reach of its loading tackle. In this case, the proper term is:

"F. A. S. vessel (named port.)"

Under this quotation:

A. Seller must (1) transport goods to seaboard. (2) store goods in warehouse or on wharf if necessary, unless buyer's obligation includes provision of shipping facilities. (3) place goods alongside vessel either in a lighter or on the wharf. (4) be responsible for loss and/or damage until goods have been delivered alongside the ship or on wharf.

B. Buyer must (1) be responsible for loss and/or damage thereafter, and for insurance. (2) handle all subsequent movement of the goods. (3) pay cost of hoisting goods into vessel where weight of goods is too great for ship's tackle.

8. The seller may desire to quote a price covering all expenses up to and including delivery of the goods upon the overseas vessel at a named port. In this case, the proper term is:

"F. O. B. vessel (named port.)"

Under this quotation:

A. Seller must (1) meet all charges incurred in placing goods actually on board the vessel. (2) be responsible for all loss and/or damage until goods have been placed on board the vessel.

B. Buyer must (1) be responsible for loss and/or damage thereafter. (2) handle all subsequent movement of the goods.

9. The seller may be ready to go farther than the delivery of his goods upon the overseas vessel and be willing to pay transportation to a foreign point of delivery. In this case, the proper term is:

"C. & F. (Named foreign port.)"

Under this quotation:

A. Seller must (1) make freight contract and pay transportation charges sufficient to carry goods to agreed destination. (2) deliver to buyer or his agent proper bills of lading to the agreed destination. (3) be responsible for loss and/or damage until goods have been delivered alongside the ship and clean ocean bill of lading obtained (seller is not responsible for delivery of goods at destination.)

B. Buyer must (1) be responsible for loss and/or damage thereafter and must take out all necessary insurance. (2) handle all subsequent movement of the goods. (3) pay costs of discharge, lighterage and landing at foreign port of destination in accordance with bill of lading clauses. (4) pay foreign customs duties and wharfage charges.

10. The seller may desire to quote a price covering the cost of the goods, the marine insurance on the goods, and all transportation charges to the foreign point of delivery. In this case, the proper term is:

"C. I. F. (named foreign port.)"

Under this quotation:

A. Seller must (1) make freight contract and pay freight charges sufficient to carry goods to agreed destination. (2) take out and pay for necessary marine insurance. (3) be responsible for loss and/or damage until goods have been delivered alongside the ship, and clean ocean bill of lading and insurance policy have been delivered to the buyer, or his agent. (Seller is not responsible for the delivery of goods at destination, nor for payment by the underwriters of insurance claims). (4) provide war risk insurance, where necessary, for buyer's account.

B. Buyer must (1) be responsible for loss and/or damage thereafter, and must make all claims to which he may be entitled under the insurance directly on the underwriters. (2) pay costs of discharge, lighterage and landing at foreign port of destination. (3) pay foreign customs duties and wharfage charges.

EXPLANATION OF ABBREVIATIONS:

F. O. B.	Free on board
F. A. S.	Free alongside ship
C. & F.	Cost and freight
C. I. F.	Cost, insurance and freight
L. C. L.	Less than carload lot